



STIC Search Report

EIC 1700

STIC Database Tracking Number: 116483

TO: Leslie Wong
Location: 4D41
Art Unit : 2177
March 12, 2004
Case Serial Number: 10/056880

From: Terese Esterheld
Location: EIC 2100 CPk. 2, 4B30
Phone: 308-7795

Terese.Esterheld@uspto.gov

Search Notes

Dear Examiner Wong;

I have searched extensively for the requested information. I have searched for ORDBMS, Optimizer, lowest cost, Join Query or paths or tuple, Cardinality, Complex attribute and Execution plan.

I have marked, because of the concepts, a large number of citations (there is not one citation containing all concepts). Please look over the complete packet as there may be items not marked that are more useful.

If I can be of further assistance on this request, please let me know.

Terese Esterheld

Set	Items	Description
S1	18	AU=(MILBY, G? OR MILBY G?)
File 347:	JAPIO Nov 1976-2003/Nov(Updated 040308)	
	(c) 2004 JPO & JAPIO	
File 348:	EUROPEAN PATENTS 1978-2004/Feb W05	
	(c) 2004 European Patent Office	
File 349:	PCT FULLTEXT 1979-2002/UB=20040304,UT=20040226	
	(c) 2004 WIPO/Univentio	
File 350:	Derwent WPIX 1963-2004/UD,UM &UP=200416	
	(c) 2004 THOMSON DERWENT	

1/5/1 (Item 1 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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01412075

Method and apparatus for protecting data retrieved from a database
Method und Verfahren zum Schutz von aus einer Datenbank abgerufenen Daten
Methode et procede de protection de donnees provenant d'une base de donnees
PATENT ASSIGNEE:

NCR INTERNATIONAL INC., (1449480), 1700 South Patterson Boulevard,
Dayton, Ohio 45479, (US), (Applicant designated States: all)

INVENTOR:

Pederson, Donald R., 12410 Pathos Lane, San Diego, CA 92130, (US)

Kaufmann, Frederick S., 12 Blazing Star, Irvine, CA 92604, (US)

Milby, Gregory H., 1252 Twin Oaks Valley Road, San Marcos, Ca 92069,
(US)

LEGAL REPRESENTATIVE:

Cleary, Fidelma et al (85871), International IP Department NCR Limited
206 Marylebone Road, London NW1 6LY, (GB)

PATENT (CC, No, Kind, Date): EP 1193588 A2 020403 (Basic)
EP 1193588 A3 021211

APPLICATION (CC, No, Date): EP 2001308028 010920;

PRIORITY (CC, No, Date): US 675275 000929

DESIGNATED STATES: DE; FR; GB

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: G06F-001/00; G06F-012/14; G06F-017/30

ABSTRACT EP 1193588 A2

A method and apparatus enables remote access of data of a database system. Such access may be performed by a remote device, such as a client computer system. A custom defined data type is assigned to data stored in the database system, the custom data type associates an access restriction to the data. A request for the data may be received over a communication network, such as the Internet or a local area network (LAN). In response to the request, the database system prepares the data for transmission and provides the requested information back over the communication network. The data is accessed using a security restriction defined by the custom data type.

ABSTRACT WORD COUNT: 113

NOTE:

Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 020403 A2 Published application without search report
Change: 021204 A2 International Patent Classification changed:
20021016

Search Report: 021211 A3 Separate publication of the search report

Examination: 030813 A2 Date of request for examination: 20030611

Examination: 030910 A2 Date of dispatch of the first examination
report: 20030722

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200214	705
SPEC A	(English)	200214	4306
Total word count - document A			5011
Total word count - document B			0
Total word count - documents A + B			5011

1/5/2 (Item 2 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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00370804

Three input logic gate circuit.
Logikgatterschaltung mit drei Eingangen.
Circuit de porte logique a trois entrees.

PATENT ASSIGNEE:

NCR CORPORATION, (218720), World Headquarters, Dayton, Ohio 45479, (US),
(applicant designated states: DE;FR;GB)

INVENTOR:

Sanwo, Ikuo Jimmy, 939 Lacebark Street, San Marcos California 92069, (US)
Milby, Gregory Howard, 8941 Bogata Circle, San Diego California 92126,
(US)

LEGAL REPRESENTATIVE:

Robinson, Robert George (35392), International Patent Department NCR
Limited 915 High Road North Finchley, London N12 8QJ, (GB)

PATENT (CC, No, Kind, Date): EP 365332 A2 900425 (Basic)

APPLICATION (CC, No, Date): EP 89310781 891019;

PRIORITY (CC, No, Date): US 259942 881019

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H03K-019/21;

ABSTRACT EP 365332 A2

A three input Exclusive OR-NOR logic gate circuit (10) includes three inverters (12,14,16) receiving three input signals (A,B,C) and providing three inverted input signals (F,G,H), a power potential terminal, a reference potential terminal, and an Exclusive NOR output node (D) and an Exclusive OR output node (E). The logic gate circuit (10) also includes switching means (18) of a first conductivity type responsive to the signals on the output nodes (D,E) to connect the power potential terminal solely to one of the output nodes (D,E), and switching means (20) of a second conductivity type responsive to the input and inverted input signals (A,B,C,F,G,H) to connect the reference potential terminal solely to the other of the output nodes (D,E).

ABSTRACT WORD COUNT: 122

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 900425 A2 Published application (A1with Search Report
;A2without Search Report)

Withdrawal: 900704 A2 Date on which the European patent application
was withdrawn: 900410

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	623
SPEC A	(English)	EPABF1	1919
Total word count - document A			2542
Total word count - document B			0
Total word count - documents A + B			2542

1/5/3 (Item 3 from file: 348)
DIALOG(R) File 348:EUROPEAN PATENTS
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00367555

Data transmission system.
Datenubertragungssystem.

Systeme de transmission de donnees.

PATENT ASSIGNEE:

NCR CORPORATION, (218720), World Headquarters, Dayton, Ohio 45479, (US),
(applicant designated states: DE;FR;GB)

INVENTOR:

Milby, Gregory H. , 8941 Bogata Circle, San Diego California 92126, (US)

Sanwo, Ikuo Jimmy, 939 Lacebark Street, San Marcos California 92069, (US)

LEGAL REPRESENTATIVE:

Robinson, Robert George (35392), International Patent Department NCR

Limited 915 High Road North Finchley, London N12 8QJ, (GB)

PATENT (CC, No, Kind, Date): EP 352965 A2 900131 (Basic)

EP 352965 A3 900829

APPLICATION (CC, No, Date): EP 89307364 890720;

PRIORITY (CC, No, Date): US 224023 880725

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-013/40;

ABSTRACT EP 352965 A2

A data transmission system for transferring data signals between first and second buses (12,14) includes data transfer means (16,18) attached to the buses (12,14) for the transfer of data signals to the buses (12,14) and supply means (20) connected to the buses (12,14) for precharging the buses to a first voltage level. The system also includes circuit means (32) connecting the buses (12,14) and responsive to a data signal at a second voltage level on either of said buses (12,14) for transferring the signal to the other bus (12,14).

ABSTRACT WORD COUNT: 93

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 900131 A2 Published application (A1with Search Report
;A2without Search Report)

Search Report: 900829 A3 Separate publication of the European or
International search report

Examination: 910206 A2 Date of filing of request for examination:
901215

Examination: 930804 A2 Date of despatch of first examination report:
930622

Change: 931006 A2 Representative (change)

*Assignee: 931006 A2 Applicant (transfer of rights) (change): NCR
INTERNATIONAL INC. (1449480) 1700 South
Patterson Boulevard Dayton, Ohio 45479 (US)
(applicant designated states: DE;FR;GB)

Withdrawal: 940629 A2 Date on which the European patent application
was deemed to be withdrawn: 940104

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	775
SPEC A	(English)	EPABF1	3286
Total word count - document A			4061
Total word count - document B			0
Total word count - documents A + B			4061

1/5/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00330504

CARBON CONNECTORS TO LIQUID-IMMERSION COOLED INTEGRATED CIRCUIT.

KOHLENSTOFF-VERBINDER FUR IN FLUSSIGKEIT EINGETAUCHTE GEKUHLTE INTEGRIERTE

SCHALTUNG.

**ELEMENTS EN CARBONE PERMETTANT LA CONNEXION A UN CIRCUIT INTEGRE REFROIDI
PAR IMMERSION DANS UN LIQUIDE.**

PATENT ASSIGNEE:

NCR INTERNATIONAL INC., (1449480), 1700 South Patterson Boulevard,
Dayton, Ohio 45479, (US), (applicant designated states: DE;FR;GB)

INVENTOR:

SANWO, Ikuo, Jimmy, 939 Lacebark Street, San Marcos, CA 92069, (US)

MILBY, Gregory, Howard, 11316 Trebol Street, San Diego, CA 92126, (US)

LEGAL REPRESENTATIVE:

Robinson, Robert George (35391), International Patent Department NCR
Limited 206 Marylebone Road, London NW1 6LY, (GB)

PATENT (CC, No, Kind, Date): EP 314738 A1 890510 (Basic)
EP 314738 B1 921202
WO 8809055 881117

APPLICATION (CC, No, Date): EP 88904311 880422; WO 88US1290 880422

PRIORITY (CC, No, Date): US 46764 870507

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H01L-023/44; F17C-013/00;

CITED PATENTS (WO A): US 4279127 A; GB 1035905 A; EP 156238 A

CITED REFERENCES (EP A):

See also references of WO8809055;

CITED REFERENCES (WO A):

IBM Journal of Research and Development, vol. 24, no. 2, March 1980 (New
York, US), A.V. Brown: "An overview of Josephson packaging", see page
167

Proceedings of the 8th International Cryogenic Engineering Conference,
3-6 June 1980, Genova (IT), vol. ICEC-8, R.W. Guernsey, Jr: "Cryogenics
for superconducting computers", see page 534;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 890510 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 890712 A1 Date of filing of request for examination:
890505

Examination: 920624 A1 Date of despatch of first examination report:
920512

Change: 920826 A1 Representative (change)

*Assignee: 920826 A1 Applicant (transfer of rights) (change): NCR
INTERNATIONAL INC. (1449480) 1700 South
Patterson Boulevard Dayton, Ohio 45479 (US)
(applicant designated states: DE;FR;GB)

Grant: 921202 B1 Granted patent

Oppn None: 931124 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	314
CLAIMS B	(German)	EPBBF1	297
CLAIMS B	(French)	EPBBF1	353
SPEC B	(English)	EPBBF1	988
Total word count - document A			0
Total word count - document B			1952
Total word count - documents A + B			1952

1/5/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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00283222

TERMINATOR FOR A TRANSCEIVER DEVICE.

ABSCHLUSS FUR EIN SENDE-EMPFANGSGERAT.

TERMINEUR POUR DISPOSITIF EMETTEUR-RECEPTEUR.

PATENT ASSIGNEE:

NCR CORPORATION, (218720), World Headquarters, Dayton, Ohio 45479, (US),
(applicant designated states: DE;FR;GB)

INVENTOR:

LAUFFER, Donald, Keith, 12902 Via del Toro, Poway, CA 92064, (US)

MILBY, Gregory, Howard, 3712 Mount Acadia Boulevard, San Diego, CA
92111, (US)

ROSTEK, Paul, Michael, 11480 Cabela Place, San Diego, CA 92127, (US)

SANWO, Ikuo, Jimmy, 939 Lacebark Street, San Marcos, CA 92069, (US)

LEGAL REPRESENTATIVE:

Robinson, Robert George (35391), International Patent Department NCR
Limited 206 Marylebone Road, London NW1 6LY, (GB)

PATENT (CC, No, Kind, Date): EP 289560 A1 881109 (Basic)

EP 289560 B1 920415

WO 8803731 880519

APPLICATION (CC, No, Date): EP 87907388 871019; WO 87US2718 871019

PRIORITY (CC, No, Date): US 929122 861110

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: H04L-005/14;

CITED PATENTS (WO A): US 3755690 A

CITED REFERENCES (EP A):

See also references of WO8803731;

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 881109 A1 Published application (A1with Search Report
;A2without Search Report)

Examination: 881228 A1 Date of filing of request for examination:
881103

Examination: 910102 A1 Date of despatch of first examination report:
901115

Grant: 920415 B1 Granted patent

Change: 920506 B1 Representative (change)

***Assignee:** 920506 B1 Proprietor of the patent (transfer of rights):
NCR INTERNATIONAL INC. (1449480) 1700 South
Patterson Boulevard Dayton, Ohio 45479 (US)
(applicant designated states: DE;FR;GB)

Oppn None: 930407 B1 No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	458
CLAIMS B	(German)	EPBBF1	430
CLAIMS B	(French)	EPBBF1	577
SPEC B	(English)	EPBBF1	1707
Total word count - document A			0
Total word count - document B			3172
Total word count - documents A + B			3172

1/5/6 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00152148

CARBON CONNECTORS TO LIQUID-IMMERSION COOLED INTEGRATED CIRCUIT

ELEMENTS EN CARBONE PERMETTANT LA CONNEXION A UN CIRCUIT INTEGRE REFROIDI

PAR IMMERSION DANS UN LIQUIDE

Patent Applicant/Assignee:

NCR CORPORATION,

Inventor(s):

SANWO Ikuo Jimmy,

MILBY Gregory Howard

Patent and Priority Information (Country, Number, Date):

Patent: WO 8809055 A1 19881117

Application: WO 88US1290 19880422 (PCT/WO US8801290)

Priority Application: US 87764 19870507

Designated States: DE FR GB JP

Main International Patent Class: H01L-023/44

International Patent Class: F17C-13:00

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 1370

English Abstract

A double walled vessel (12) having a styrofoam filling (16) between the double walls (14, 18) internally supports a semiconductor chip (26) to which is attached at least one flat ribbon cable (30). The semiconductor chip (26) is immersed in liquid nitrogen (24) with at least one flat ribbon cable (30) extending to the top lip of the vessel (12). Carbon conductors (50) are connected to each conductor of the flat ribbon cable (30) and extend to the outer wall (14) of the vessel (12). Another flat ribbon cable (52) is connected to the carbon conductors (50) and to an electrical connector (54). A double walled top (13) having a styrofoam filling (16') is secured to the vessel (12) such that the carbon conductors (50) are sealed between the styrofoam fillings (16, 16') of the top (13) and the double walled vessel (12) thereby preventing the formation of frost on the flat ribbon cable (52) and connector (54) that is external to the sealed vessel. Tubings (40, 42, 44) are inserted through the double walled vessel (12) to permit the insertion of liquid nitrogen (24) and the drawing off of gaseous and liquid nitrogen.

French Abstract

Une enceinte a double paroi ayant un garnissage en mousse synthetique (16) entre les doubles parois (14, 18) supporte interieurement une puce a semi-conducteurs (26) a laquelle est fixe au moins un cable plat (30). La puce a semi-conducteurs (26) est immergee dans de l'azote liquide (24), au moins un cable plat (30) s'etendant jusqu'a la levre superieure de l'enceinte (12). Des conducteurs en carbone (50) sont relies a chaque conducteur du cable plat (30) et s'etendent jusqu'a la paroi exterieure (14) de l'enceinte (12). Un autre cable plat (52) est relie aux conducteurs en carbone (50) et a un connecteur electrique (54). Un couvercle (13) a double paroi ayant un garnissage en mousse synthetique (16') est fixe sur l'enceinte (12) de sorte que les conducteurs en carbone (50) sont scelles entre les garnissages de mousse synthetique (16, 16') du couvercle (13) et de l'enceinte a double paroi (12), empechant ainsi la formation de givre sur le cable plat (52) et le connecteur (54) qui est externe a l'enceinte hermetique. Des tubulures (40, 42, 44) sont inserees a travers l'enceinte a double paroi (12) pour permettre l'introduction d'azote liquide (24) et l'evacuation d'azote gazeux et liquide.

1/5/7 (Item 2 from file: 349)

DIALOG(R) File 349:PCT FULLTEXT

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00146843

TERMINATOR FOR A TRANSCEIVER DEVICE

TERMINEUR POUR DISPOSITIF EMETTEUR-RECEPTEUR

Patent Applicant/Assignee:

NCR CORPORATION,

Inventor(s):

LAUFFER Donald Keith,

MILBY Gregory Howard ,

ROSTEK Paul Michael,

SANWO Ikuo Jimmy

Patent and Priority Information (Country, Number, Date):

Patent: WO 8803731 A1 19880519

Application: WO 87US2718 19871019 (PCT/WO US8702718)

Priority Application: US 86122 19861110

Designated States: DE FR GB JP

Main International Patent Class: H04L-005/14

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 1981

English Abstract

A terminator for a first transceiver device (10) for transmitting data signals to and receiving data signals from a second transceiver device (12) over a transmission line (14) therebetween includes a transmitter (30, 31) coupled to the transmission line (14) for transmitting data signals to the second transceiver device (12), a receiver (30, 31) coupled to the transmission line (14) for receiving data signals from the second transceiver device (12), a termination resistor (RT1) coupled to the transmission line (14) for improving the transmission characteristics of the transmission line (14), and a switch device (38) located between the termination resistor (RT1) and the transmission line (14). The switch device (38) is closed for a portion of the time when the receiver (30, 31) is receiving data signals from the second transceiver device (12) such that when it is closed, the termination resistor (RT1) is connected to the transmission line (14), and is open for the remainder of the time such that when it is open the termination resistor (RT1) is not connected to the transmission line (14).

French Abstract

Un termineur d'un premier dispositif émetteur-recepteur (10) qui transmet des signaux de données à un deuxième dispositif émetteur-recepteur (12) et reçoit des signaux émis par ce dernier par une ligne de transmission (14) s'étendant entre les deux comprend un émetteur (30, 31) couple à la ligne de transmission (14) afin de transmettre des signaux de données au deuxième dispositif émetteur-recepteur (12), un récepteur (30, 31) couple à la ligne de transmission (14) afin de recevoir des signaux de données du deuxième dispositif émetteur-recepteur (12), une résistance de terminaison (RT1) couplée à la ligne de transmission (14) afin d'améliorer les caractéristiques de transmission de la ligne de transmission (14), et un dispositif commutateur (38) situé entre la résistance de terminaison (RT1) et la ligne de transmission (14). Le dispositif commutateur (38) est fermé pendant une partie du temps, pendant que le récepteur (30, 31) reçoit des signaux de données émis par le deuxième dispositif émetteur-recepteur (12), de sorte que lorsqu'il est fermé, la résistance de terminaison (RT1) soit connectée à la ligne de transmission (14), et est ouvert pendant le reste du temps, de sorte que lorsqu'il est ouvert la résistance de terminaison (RT1) ne soit pas connectée à la ligne de transmission (14).

1/5/8 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014616403 **Image available**
WPI Acc No: 2002-437107/200247
XRPX Acc No: N02-344076

Secure information delivery method for personal or geographic data in
RDBMS, receives query and prepares data for transmission in response to
request based on access restriction

Patent Assignee: NCR INT INC (NATC); NCR CORP (NATC)
Inventor: KAUFMANN F S; MILBY G H ; PEDERSON D R
Number of Countries: 027 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1193588	A2	20020403	EP 2001308028	A	20010920	200247 B
US 6671687	B1	20031230	US 2000675275	A	20000929	200402

Priority Applications (No Type Date): US 2000675275 A 20000929

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1193588	A2	E	13	G06F-001/00	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT					
LI LT LU LV MC MK NL PT RO SE SI TR					
US 6671687	B1			G06F-017/30	

Abstract (Basic): EP 1193588 A2

NOVELTY - A custom defined data type associating an access restriction is assigned to data in a database system. A query for credit card information is received and the data is prepared for transmission in response to the request based on access restriction. The prepared data is then sent to a remote device over a private or public network connection (145) like Internet.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Secure information delivery system;
- (b) Storage media comprising instructions for secure information delivery

USE - Used for delivering personal data, geographic/demographic data, purchasing habits, etc., stored in database system like relational database management system (RDBMS).

ADVANTAGE - The possibility of fraud is reduced so security is improved, as unauthorized access through user interface is avoided.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a database communication system.

Network connection (145)

pp; 13 DwgNo 1/6

Title Terms: SECURE; INFORMATION; DELIVER; METHOD; PERSON; GEOGRAPHICAL;
DATA; RECEIVE; QUERY; PREPARATION; DATA; TRANSMISSION; RESPOND; REQUEST;
BASED; ACCESS; RESTRICT

Derwent Class: T01

International Patent Class (Main): G06F-001/00; G06F-017/30

International Patent Class (Additional): G06F-007/00

File Segment: EPI

1/5/9 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012803147 **Image available**
WPI Acc No: 1999-609377/199952
XRPX Acc No: N99-448827

Enhanced asynchronous transfer mode switch for ATM cell traffic

Patent Assignee: NCR CORP (NATC)
Inventor: BOGGS G L; COOPER R S; ERICKSON G R; HUNDLEY D,E; MILBY G H ;
MULLER P K; STEHLEY C H; TIPON D G
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 5959994 A 19990928 US 96699260 A 19960819 199952 B

Priority Applications (No Type Date): US 96699260 A 19960819

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 5959994 A 22 H04L-012/56

Abstract (Basic): US 5959994 A

NOVELTY - A switch comprising a switch core (190) and node interconnects, provides low latency transfer between bidirectional ports and peripheral interconnects which perform input/output operations with respective peripherals. The node interconnect has a segmentation and reassembly unit for translating ATM cells from and to available kernel buffers.

DETAILED DESCRIPTION - The segmentation and reassembly unit comprises a direct application input/output unit for transferring directly between a software application and the ATM network.

USE - For use as a universal computer system interconnection.

ADVANTAGE - As the ATM network can be used as a universal interconnect and can replace all the other interconnects, the system can reduce the interconnect cost, interconnect management and maintenance and thereby improves stability.

DESCRIPTION OF DRAWING(S) - The figure shows the interconnect system for ATM.

Switch core (190)
pp; 22 DwgNo 1/13

Title Terms: ENHANCE; ASYNCHRONOUS; TRANSFER; MODE; SWITCH; ATM; CELL; TRAFFIC

Derwent Class: T01; W01

International Patent Class (Main): H04L-012/56

File Segment: EPI

1/5/10 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009122086

WPI Acc No: 1992-249523/199230

XRPX Acc No: N92-190610

Computer data transfer system - includes transistor diode clamping circuit for limiting pre-charge voltages in case where multiple pre-charge cycles occur before pull-down operation

Patent Assignee: NCR CORP (NATC)
Inventor: LE Q; MILBY G H ; SANWO I J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No Kind Date Applicat No Kind Date Week
US 5128557 A 19920707 US 89355261 A 19890522 199230 B

Priority Applications (No Type Date): US 89355261 A 19890522

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5128557	A		5	H03K-019/20	

Abstract (Basic): US 5128557 A

The high speed computer data transfer system for transferring digital data includes a pre-charger coupled to the bus for pre-charging the bus to a first logic level. A pulling circuit coupled to the bus pulls the bus from the first logic level to a second logic level. A diode clamping circuit, including a diode-connected clamping transistor connected to the bus prevents the bus from exceeding a threshold voltage during pre-charging. The time for transition from the first logic level to the second logic level is decreased.

The clamping circuit includes a bias voltage setter for setting a bias voltage. The gate and drain of the clamping transistor are connected, its source is coupled to the bus and its gate-drain connection is coupled to the bias voltage setter. The clamping transistor conducts when the voltage on the bus exceeds the bias voltage.

ADVANTAGE - Lower time needed to transfer data.

Dwg.2/2

Title Terms: COMPUTER; DATA; TRANSFER; SYSTEM; TRANSISTOR; DIODE; CLAMP; CIRCUIT; LIMIT; PRE; CHARGE; VOLTAGE; CASE; MULTIPLE; PRE; CHARGE; CYCLE; OCCUR; PULL-DOWN; OPERATE

Derwent Class: T01; U21

International Patent Class (Main): H03K-019/20

File Segment: EPI

1/5/11 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008718368 **Image available**

WPI Acc No: 1991-222387/199130

XRPX Acc No: N91-169737

High speed digital computer data transfer system - reduces data bus voltage giving thus lowering bus transition and data transfer times

Patent Assignee: NCR CORP (NATC)

Inventor: MILBY G H ; SANWO I J; LE Q X

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5030857	A	19910709	US 89398563	A	19890825	199130 B
US 5030857	B	19930202	US 89398563	A	19890825	199308

Priority Applications (No Type Date): US 89398563 A 19890825

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5030857	B		2	H03K-019/017	

Abstract (Basic): US 5030857 A

The high speed digital computer data transfer system having reduced bus state transition time comprises a data transfer bus and a clamping pre-charger coupled to the bus for precharging and maintaining the bus at a first logic level. A bus interface logic circuit coupled to the bus is capable of selectively placing a second logic level voltage on the bus representing a logic high data state of the computer data transfer system.

A converter/output device is coupled to the bus for converting bus

voltages at the first logic level to a third logic level representing a logic low data state of the computer data transfer system, and for outputting data at either the second or third logic levels. The first logic level is higher than the third logic level.

ADVANTAGE - Decreases data bus voltage swings. (10pp Dwg.No.2,3/3)
Title Terms: HIGH; SPEED; DIGITAL; COMPUTER; DATA; TRANSFER; SYSTEM; REDUCE
; DATA; BUS; VOLTAGE; LOWER; BUS; TRANSITION; DATA; TRANSFER; TIME
Derwent Class: T01; U13; U21
International Patent Class (Main): H03K-019/017
International Patent Class (Additional): G11C-015/49; H03K-019/01;
H03K-019/092; H03K-019/096
File Segment: EPI

1/5/12 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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008561412 **Image available**
WPI Acc No: 1991-065447/199109
XRPX Acc No: N91-050623

Computer data transfer system for microprocessor IC - has clamping circuit for limiting pre-charge voltages where multiple pre-charge cycles occur before pull-down

Patent Assignee: NAT FROST PROTECTION CO (NATG)
Inventor: KIM M Y; MILBY G H ; SANWO I J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4992678	A	19910212	US 88284644	A	19881215	199109 B

Priority Applications (No Type Date): US 88284644 A 19881215

Abstract (Basic): US 4992678 A

The system has a data transfer bus and a pre-charger connected to the data transfer bus for pre-charging the bus to a voltage representative of a first logic level. A pulling circuit is connected to the data transfer bus for pulling the bus from the first logic level to a voltage representative of a second logic level.

Additionally, the system has a clamping circuit connected to the data transfer bus for preventing the bus from exceeding a threshold voltage during pre-charging. The time for transition from the first logic level to the second logic level is decreased as a result.

ADVANTAGE - High speed reducing pull-up and pull-down times of data bus. (6pp Dwg.No.2/3)

Title Terms: COMPUTER; DATA; TRANSFER; SYSTEM; MICROPROCESSOR; IC; CLAMP;
CIRCUIT; LIMIT; PRE; CHARGE; VOLTAGE; MULTIPLE; PRE; CHARGE; CYCLE; OCCUR
; PULL; DOWN
Derwent Class: T01; U21; W01
International Patent Class (Additional): H03K-005/15; H03K-019/09
File Segment: EPI

1/5/13 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2004 THOMSON DERWENT. All rts. reserv.

008467725 **Image available**
WPI Acc No: 1990-354725/199047
XRPX Acc No: N90-270831

Emitter coupled logic to CMOS logic translator - tracks temperature

induced shifts in ECL logic levels and includes differential amplifier with mid-range reference

Patent Assignee: NCR CORP (NATC)

Inventor: LE Q G; **MILBY G H** ; SANWO I J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4968905	A	19901106	US 89398856	A	19890825	199047 B

Priority Applications (No Type Date): US 89398856 A 19890825

Abstract (Basic): US 4968905 A

The emitter coupled logic (ECL)-to-complementary metal-oxide-semiconductor (CMOS) logic level translator has a translator input coupled to receive an input ECL signal and a translator output. A logic level shifter is coupled at its input to the translator input and coupled at its output to the translator output for translating the input ECL signal to an output CMOS signal. A temperature compensator is coupled to the logic level shifter for temperature compensating the output.

The logic level shift comprises a differential amplifier with a reference voltage input coupled to the temperature compensator. The temperature compensator supplies the reference voltage. The temperature compensator comprises a temperature compensation transistor coupled to the output of the temperature compensator for adjusting the output of the temperature compensator in accordance with temperature changes.

ADVANTAGE - Does not require external power supply. (6pp

Dwg.No.1/2)

Title Terms: EMITTER; COUPLE; LOGIC; CMOS; LOGIC; TRANSLATION; TRACK; TEMPERATURE; INDUCE; SHIFT; ECL; LOGIC; LEVEL; DIFFERENTIAL; AMPLIFY; MID ; RANGE; REFERENCE

Derwent Class: U21

International Patent Class (Additional): H03K-017/14

File Segment: EPI

1/5/14 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008171438 **Image available**

WPI Acc No: 1990-058439/199008

XRPX Acc No: N90-044794

Three input exclusive OR-NOR-gate circuit - has exclusive NOR and OR output nodes and transistors of two conductivity types responsive to input and output nodes

Patent Assignee: NCR CORP (NATC)

Inventor: **MILBY G H** ; SANWO I J

Number of Countries: 004 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4888499	A	19891219	US 88259942	A	19881019	199008 B
EP 365332	A	19900425	EP 89310781	A	19891019	199017

Priority Applications (No Type Date): US 88259942 A 19881019

Cited Patents: NoSR.Pub

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 4888499	A		7		
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EP 365332	A				
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Designated States (Regional): DE FR GB

Abstract (Basic): US 4888499 A

The circuit comprises inverters for receiving three input signals and for providing three inverted input signals, a power potential terminal, a reference potential terminal and an Exclusive NOR output node and an Exclusive OR output node.

The circuit also includes transistors of a first conductivity type responsive to the signals on the output nodes for connecting the power potential terminal solely to one of the output nodes and transistors of a second conductivity type responsive to the input and inverted input signals for connecting the reference potential terminal solely to the other of the output nodes.

USE/ADVANTAGE - Partic. parity checking circuit. Enhanced performance through reduced gate count and node capacitance.

1/2

Title Terms: THREE; INPUT; EXCLUDE; NOR-GATE; CIRCUIT; EXCLUDE; NOR; OUTPUT ; NODE; TRANSISTOR; TWO; CONDUCTING; TYPE; RESPOND; INPUT; OUTPUT; NODE

Index Terms/Additional Words: OR-GATE

Derwent Class: T01; U21

International Patent Class (Additional): H03K-019/01

File Segment: EPI

1/5/15 (Item 8 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008144519 **Image available**

WPI Acc No: 1990-031520/199005

XRPX Acc No: N90-024257

VLSI circuit data transmission system - has circuit placed in active state when ion control signal appears on line

Patent Assignee: NCR CORP (NATC)

Inventor: MILBY G H ; SANWO I J; MILBY G N

Number of Countries: 006 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 352965	A	19900131	EP 89307364	A	19890720	199005 B
JP 2060341	A	19900228	JP 89164117	A	19890628	199015
US 4918329	A	19900417	US 88224023	A	19880725	199020
CA 1304805	C	19920707	CA 601609	A	19890602	199233
US 4918329	B	19930601	US 88224023	A	19880725	199323

Priority Applications (No Type Date): US 88224023 A 19880725

Cited Patents: A3...9035; DE 3133579; No-SR.Pub; US 3938094; US 4621202

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 352965	A	E	12		
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Designated States (Regional): DE FR GB

US 4918329	B	2	H03K-019/17
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CA 1304805	C		H04L-005/00
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Abstract (Basic): EP 352965 A

The data transmission system includes two buses (12,14) with two data transfer transistors (16,18) for data signal transfer to the buses (12,14). A supply is connected to the buses (12,14) and is adapted to precharge the buses (12,14) to a voltage level. A circuit (32) connects the buses (12,14) and is adapted in response to a data signal at a second voltage level on either of the buses (12,14) to transfer the signal to the other bus (12,14). A control line (28) is connected to the supply (20), which is responsive to a first value of a digital

control signal on the control line (28). The circuit (32) is responsive to a second value of the control signal on the control line.

ADVANTAGE - Reduced chip space.

1/4

Title Terms: VLSI; CIRCUIT; DATA; TRANSMISSION; SYSTEM; CIRCUIT; PLACE; ACTIVE; STATE; ION; CONTROL; SIGNAL; APPEAR; LINE

Derwent Class: T01

International Patent Class (Main): H03K-019/17; H04L-005/00

International Patent Class (Additional): G06F-003/00; G06F-013/40;

G11C-015/49; H03K-019/09; H03K-019/96; H04L-011/00; H04L-012/40;

H04L-025/02

File Segment: EPI

1/5/16 (Item 9 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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007704432 **Image available**

WPI Acc No: 1988-338364/198847

XRAM Acc No: C88-149596

XRPX Acc No: N88-256471

IC packaging assembly including semiconductor chip - comprising thermally insulated vessel, mounting means for semiconductor chip, electrically conductive means, etc.

Patent Assignee: NCR INT INC (NATC); NCR CORP (NATC)

Inventor: MILBY H G; SANWO J; MILBY G H ; SANWO I J; SANWO J J

Number of Countries: 005 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 8809055	A	19881117	WO 88US1290	A	19880422	198847 B
US 4800422	A	19890124	US 8746764	A	19870507	198906
EP 314738	A	19890510	EP 88904311	A	19880422	198919
JP 1503426	W	19891116	JP 88504133	A	19880422	199001
EP 314738	B1	19921202	EP 88904311	A	19880422	199249
			WO 88US1290	A	19880422	
DE 3876376	G	19930114	DE 3876376	A	19880422	199303
			EP 88904311	A	19880422	
			WO 88US1290	A	19880422	

Priority Applications (No Type Date): US 8746764 A 19870507

Cited Patents: 2.Jnl.Ref; EP 156238; GB 1035905; US 4279127

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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WO 8809055	A	E 10		
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Designated States (National): JP

Designated States (Regional): DE FR GB

US 4800422	A	4		
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EP 314738	A	E		
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Designated States (Regional): DE FR GB

EP 314738	B1 E	5	H01L-023/44	Based on patent WO 8809055
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Designated States (Regional): DE FR GB

DE 3876376	G		H01L-023/44	Based on patent EP 314738
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Based on patent WO 8809055

Abstract (Basic): EP 314738 A

An integrated circuit packaging assembly including a semiconductor chip (26), comprising: a thermally insulated enclosure including a thermally insulated vessel (12) and a thermally insulated closure member (13) for said vessel (12); mounting means (20) adapted to support said semiconductor chip (26) within said enclosure;

electrically conductive means (18, 30) connected between said semiconductor chip (26) and carbon conductors (50) located between said vessel (12) and said closure member (13) and connected to connection means (52, 54) outside said enclosure; and a liquid coolant (24) covering said semiconductor chip (26).

(Dwg.1/2)

WO 8809055 A

Integrated circuit packaging assembly includes a double-walled vessel (12) with styrofoam filling (16), supporting a semiconductor chip (26), to which is attached at least one flat ribbon cable (30), immersed in liquid N2 (24). The flat cable extends to the top lip of the vessel and C conductors (50) are attached to each conductor of the cable, extending to the outer wall (14) of the vessel. Another flat ribbon cable (52) is attached to the C conductors and to an electrical connector (54). The C conductors are sealed between styrofoam fillings (16,16') of a top (13) and the vessel tubes (40,42,44) allow passage of liquid N2 into the vessel and discharge of gas.

ADVANTAGE - Formation of frost on the flat ribbon cable and connector is prevented.

1/2

Title Terms: IC; PACKAGE; ASSEMBLE; SEMICONDUCTOR; CHIP; COMPRISE; THERMAL; INSULATE; VESSEL; MOUNT; SEMICONDUCTOR; CHIP; ELECTRIC; CONDUCTING

Derwent Class: A85; L03; Q69; U11

International Patent Class (Main): H01L-023/44

International Patent Class (Additional): F17C-013/00; H01L-039/04

File Segment: CPI; EPI; EngPI

1/5/17 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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007409087

WPI Acc No: 1988-043022/198806

XPX Acc No: N88-032420

Terminator for CMOS transceiver device - closes switch for time period when data signals are received to connect termination resistor to transmission line

Patent Assignee: NCR CORP (NATC)

Inventor: LAUFFER K D; MILBY H G; ROSTEK M P; SANWO J; LAUFFER D K; MILBY

G H ; ROSTEK P M; SANWO I J

Number of Countries: 006 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4713827	A	19871215	US 86929122	A	19861110	198806 B
WO 8803731	A	19880519	WO 87US2718	A	19871019	198821
EP 289560	A	19881109	EP 87907388	A	19871019	198845
JP 1501275	W	19890427	JP 87506910	A	19871019	198923
CA 1273692	A	19900904				199041
EP 289560	B	19920415	EP 87907388	A	19871019	199216
DE 3778350	G	19920521	DE 3778350	A	19871019	199222
			EP 87907388	A	19871019	
			WO 87US2718	A	19871019	

Priority Applications (No Type Date): US 86929122 A 19861110

Cited Patents: 3.Jnl.Ref; JP 60065622; US 3755690

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 4713827 A 5

WO 8803731 A E

Designated States (National): JP

Designated States (Regional): DE FR GB
EP 289560 A E
Designated States (Regional): DE FR GB
EP 289560 B E 6
Designated States (Regional): DE FR GB
DE 3778350 G H04L-005/14 Based on patent EP 289560
Based on patent WO 8803731

Abstract (Basic): US 4713827 A

The terminator has a transmitter connected to the transmission line for transmitting data signals to a second transceiver device. A receiver is connected to the transmission line for receiving data signals from the second transceiver device. A termination resistor is connected to the transmission line for improving the transmission characteristics of the transmission line, and a switch device between the termination resistor and the transmission line.

The switch device is closed for a portion of the time when the receiver is receiving data signals from the second transceiver device so that when it is closed the termination resistor is connected to the transmission line, and is open for the remaining time so that when it is open the termination resistor is not connected to the transmission line.

1/1

Title Terms: TERMINATE; CMOS; TRANSCEIVER; DEVICE; CLOSE; SWITCH; TIME; PERIOD; DATA; SIGNAL; RECEIVE; CONNECT; TERMINATE; RESISTOR; TRANSMISSION; LINE

Derwent Class: U21; W01

International Patent Class (Main): H04L-005/14

International Patent Class (Additional): H04L-025/12

File Segment: EPI

1/5/18 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004748700

WPI Acc No: 1986-252041/198638

XRPX Acc No: N86-188335

Energised circuit board connection system - pre-charges board to approach back panel voltage and maintains level during removal using internal power supplied via dedicated board

Patent Assignee: NCR CORP (NATC)

Inventor: DANIEL R A; MILBY G H ; ROSTEK P M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4609829	A	19860902	US 84643501	A	19840823	198638 B

Priority Applications (No Type Date): US 84643501 A.19840823

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 4609829	A	6		

Abstract (Basic): US 4609829 A

The appts. includes a power supply with a power connection electrically connected to the power supply and having a board connector for electrical connection to a circuit board to be inserted into or removed from an energized circuit. A control circuit controls the power supply. The control circuit controls the precharging of a circuit board to a selected voltage level prior to its insertion into a circuit, and

maintains a selected voltage level on a circuit board during its removal from an energised circuit.

The appts. pre-charges the circuit board to within 0.25 V of the back panel voltage. This reduction of voltage difference allows over 80 insertions of 16 amp board connectors without causing significant parameter changes.

ADVANTAGE - Reduce risk of arcing and material transfer effects causing damage to DIN connectors. (6pp Dwg.No.3/3)

Title Terms: ENERGISE; CIRCUIT; BOARD; CONNECT; SYSTEM; PRE; CHARGE; BOARD; APPROACH; BACK; PANEL; VOLTAGE; MAINTAIN; LEVEL; REMOVE; INTERNAL; POWER; SUPPLY; DEDICATE; BOARD

Derwent Class: T01; U24; V04

International Patent Class (Additional): H02J-007/00

File Segment: EPI

Set	Items	Description
S1	2	AU=(MILBY, G? OR MILBY G?)
File	2:INSPEC 1969-2004/Feb W5	(c) 2004 Institution of Electrical Engineers
File	6:NTIS 1964-2004/Mar W1	(c) 2004 NTIS, Intl Cpyrght All Rights Res
File	8:Ei Compendex(R) 1970-2004/Feb W5	(c) 2004 Elsevier Eng. Info. Inc.
File	34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W5	(c) 2004 Inst for Sci Info
File	35:Dissertation Abs Online 1861-2004/Feb	(c) 2004 ProQuest Info&Learning
File	65:Inside Conferences 1993-2004/Mar W1	(c) 2004 BLDSC all rts. reserv.
File	92:IHS Intl.Stds.& Specs. 1999/Nov	(c) 1999 Information Handling Services
File	94:JICST-EPlus 1985-2004/Feb W5	(c)2004 Japan Science and Tech Corp(JST)
File	95:TEME-Technology & Management 1989-2004/Feb W4	(c) 2004 FIZ TECHNIK
File	99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb	(c) 2004 The HW Wilson Co.
File	103:Energy SciTec 1974-2004/Feb B2	(c) 2004 Contains copyrighted material
File	144:Pascal 1973-2004/Feb W5	(c) 2004 INIST/CNRS
File	202:Info. Sci. & Tech. Abs. 1966-2004/Feb 27	(c) 2004 EBSCO Publishing
File	233:Internet & Personal Comp. Abs. 1981-2003/Sep	(c) 2003 EBSCO Pub.
File	239:Mathsci 1940-2004/Apr	(c) 2004 American Mathematical Society
File	275:Gale Group Computer DB(TM) 1983-2004/Mar 11	(c) 2004 The Gale Group
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	(c) 1998 Inst for Sci Info
File	647:CMP Computer Fulltext 1988-2004/Feb W5	(c) 2004 CMP Media, LLC
File	674:Computer News Fulltext 1989-2004/Feb W5	(c) 2004 IDG Communications
File	696:DIALOG Telecom. Newsletters 1995-2004/Mar 10	(c) 2004 The Dialog Corp.

1/5/1 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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5670902 INSPEC Abstract Number: B9710-6250G-005, C9710-7130-020

Title: GIS, GPS and local government

Author(s): Masters, E.; Collis, S.; **Milby, G.**

Author Affiliation: Sch. of Geomatic Eng., New South Wales Univ., Kensington, NSW, Australia

Conference Title: URISA Proceedings. Papers from the Annual Conference of the Urban and Regional Information Systems Association p.228-37

Publisher: Urban & Regional Inf. Syst. Assoc, Washington, DC, USA

Publication Date: 1995 Country of Publication: USA x+771 pp.

Material Identity Number: XX95-01743

Conference Title: Proceedings of 33rd Annual URISA Conference

Conference Date: 16-20 July 1995 Conference Location: San Antonio, MN, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: In recent years the Australian local government sector has been required to start preparing financial reports in accordance with Australian Accounting Standard (AAS27). This standard requires a statement of financial position that discloses the estimated value and life expectancy of all assets. The nature of local government assets implies that the processes involved in collecting data for asset management will be a daunting task. Many organisations are therefore hoping that geographical information systems (GIS) and global positioning systems (GPS) technology will provide cost effective methods of collecting and maintaining the data required for asset management. The paper describes a preliminary project to investigate the suitability of GPS for GIS technology for asset management in local government. (4 Refs)

Subfile: B C

Descriptors: accounts data processing; geographic information systems; Global Positioning System; government data processing; standards

Identifiers: Australian local government sector; financial reports; Australian Accounting Standard; AAS27; financial position; estimated value; life expectancy; local government assets; asset management; geographical information systems; global positioning systems technology; cost effective methods; GIS technology

Class Codes: B6250G (Satellite relay systems); C7130 (Public administration); C7120 (Financial computing); C7840 (Geography and cartography computing)

Copyright 1997, IEE

1/5/2 (Item 1 from file: 65)

DIALOG(R)File 65:Inside Conferences

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01165153 INSIDE CONFERENCE ITEM ID: CN011426232

GIS, GPS and Local Government

Masters, E.; Collis, S.; **Milby, G.**

CONFERENCE: Information technology linking the Americas: your network to an expanded world-33nd Annual conference

PAPERS FROM THE ANNUAL CONFERENCE- URBAN AND REGIONAL INFORMATION SYSTEMS ASSOCIATION, 1995; VOL 1 P: 228-237

The Association, 1995

ISSN: 0566-330X

LANGUAGE: English DOCUMENT TYPE: Conference Papers and abstracts

CONFERENCE EDITOR(S): Salling, M. J.

CONFERENCE SPONSOR: Urban and Regional Information Systems Association

CONFERENCE LOCATION: San Antonio, TX
CONFERENCE DATE: Jul 1995 (199507) (199507)

BRITISH LIBRARY ITEM LOCATION: 6396.535100

NOTE:

2; vols; Also known as URISA '95

DESCRIPTORS: information technology; URISA

Set	Items	Description
S1	29	ORDBMS OR OBJECT()RELATIONAL()DBMS OR OBJECT()RELATIONAL()-(DATABASE OR DATE()BASE)()MANAGEMENT()SYSTEM OR (UNIVERSAL OR HYBRID)() (DATABASE? OR DATA()BASE?)
S2	387	OPTIMIZER? OR DEFRAGGER? OR DEFRAGMENTER?
S3	2785376	DETERMIN? OR DECID? OR ASCERTAIN? OR RESOLV? OR DETECT? OR RECOGNI? OR VERIFY? OR AUTHENTICAT? OR VALIDAT?
S4	3217395	COST? ? OR COSTING OR PRICE? ? OR PRICING OR VALUE OR CHARG? OR AMOUNT
S5	5581448	JOIN? OR LINK? OR CONNECT? OR COMBINE? OR ASSOCIAT? OR RELAT?
S6	9967	S5 (2N) (QUERY OR QUERIES OR INQUIR? OR REQUISITION? OR REQUEST? OR PETITION?)
S7	4434181	SELECT? OR CHOOSE OR CULL OR ELECT OR CHOICE OR INCLUDE? OR PICK???
S8	24062	(LOWEST OR LEAST OR SMALLEST OR LOWERMOST OR NETHERMOST OR BOTTOM) (2N) S4
S9	247302	S5 (2N) (PATH? OR LOCAT? OR ADDRESS? OR PLACE? OR POSITION? OR LOCAL? OR VECTOR? OR COORDINATES)
S10	59008	S5 (2N) (TUPLE OR TABLE? OR ARRAY? OR (MATHEMATICAL OR DATA)-()ELEMENT? OR MATRIX? OR MATRICES OR COLUMN? OR ROW? OR GRAPH? OR FAT OR MFAT)
S11	4017498	CARDINALITY OR CARDINALITIES OR ONE(1N) (ONE OR MANY) OR CARDINAL()NUMBER? OR KNAPSACK()VECTOR? OR DISTINCT()ELEMENT?
S12	1584	(COMPLEX OR INTERCONNECT? OR INTERWOVEN) (2N) (ATTRIBUTE? OR DATA() (TYPE? OR VALUE?) OR PARAMETER? OR SCHEMA OR LIMIT? OR -BOUND? OR DESCRIPT? OR TYPE()INFORMATION)
S13	639935	(TV OR TELEVISION OR RADIO) () (SHOW? OR PROGRAM? OR BROADCAST?) OR MEDIA()ASSET? OR VIDEO? OR AUDIO? OR MULTIMEDIA OR MEDIA
S14	142	EXECUTION()PLAN?
S15	1	S1 AND S2
S16	1	S2 AND S3 AND S4 AND S6
S17	157	S2 AND S3
S18	64	S17 AND S4
S19	4	S17 AND S6
S20	1	S18 AND S6
S21	2	S2 AND S7 AND S8
S22	9	S2 AND S9
S23	9	S2 AND S10
S24	0	S6 AND S12
S25	18750	S10 AND S11
S26	4	S2 AND S25
S27	22	S2 AND S13
S28	0	S1 AND S14
S29	13	S2 AND S14
S30	111	S15 OR S16 OR S18 OR S19 OR S20 OR S21 OR S22 OR S23 OR S26 OR S27 OR S29
S31	76	S30 AND IC=G06F?
S32	49	S31 AND IC=(G06F-017? OR G06F-007?)
S33	23	S1 AND IC=G06F?

File 347:JAPIO Nov 1976-2003/Nov(Updated 040308)

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File 350:Derwent WPIX 1963-2004/UD,UM &UP=200416

(c) 2004 THOMSON DERWENT

33/5/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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07097477 **Image available**

HYBRID DATA BASE SYSTEM

PUB. NO.: 2001-325133 [JP 2001325133 A]

PUBLISHED: November 22, 2001 (20011122)

INVENTOR(s): BABA KAZUYA

KOIZUMI MASAMI

YOSHIDA SADAHIKO

APPLICANT(s): FUJITSU LTD

APPL. NO.: 2001-067681 [JP 200167681]

FILED: March 09, 2001 (20010309)

PRIORITY: 2000-065419 [JP 200065419], JP (Japan), March 09, 2000
(20000309)

INTL CLASS: G06F-012/00

ABSTRACT

PROBLEM TO BE SOLVED: To solve the problem that extremely difficult shifting operation is required in the case of converting many database applications mainly constructed by a network database(NDB) into a relational database(RDB) even when either one of an application reconstitution method and a simple shifting method is adopted.

SOLUTION: A database system for unitarily managing application processing for accessing the NDB and the RDB is provided with a data table having pointer data inherent in respective lines of each table consisting of a data part and capable of storing the pointer data together with the data part and an order relation table for storing the hierarchical relation of the NDB and the order relation among records on the basis of the pointer data. A DML instruction for application processing for accessing the NDB is assembled to an SQL instruction by an SQL instruction assembling means and the data table is accessed through the order relation table. Thus the problem is solved.

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33/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO

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04197726 **Image available**

DOCUMENT PREPARING SYSTEM

PUB. NO.: 05-189426 [JP 5189426 A]

PUBLISHED: July 30, 1993 (19930730)

INVENTOR(s): TATSUTA MASAYUKI

APPLICANT(s): MEIDENSHA CORP [000610] (A Japanese Company or Corporation),
JP (Japan)

APPL. NO.: 04-001894 [JP 921894]

FILED: January 09, 1992 (19920109)

INTL CLASS: [5] G06F-015/20

JAPIO CLASS: 45.4 (INFORMATION PROCESSING -- Computer Applications)

JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers &
Microprocessors); R139 (INFORMATION PROCESSING -- Word
Processors)

JOURNAL: Section: P, Section No. 1643, Vol. 17, No. 616, Pg. 5,
November 12, 1993 (19931112)

ABSTRACT

PURPOSE: To easily fetch a list and graphic data in a document by fetching list data from a **universal data base**, and fetching a graph or a text list in the document in a link process by obtaining by data processing.

CONSTITUTION: A data base operating process 3 to fetch the data from the **universal data base** 2 is provided in application software 1. The data base operating process 3 generates an inquiry by SQL (relational data base language) of ANSI standard, and receives the list data in accordance with the inquiry from the **universal data base** 2 as a result. The list data is processed to a graphic image and the text data by a data working process 4. The data file 5 of generated graphic image or text list is written on the data fetching area 6A of a document file 6 in which the document is being prepared by the link process of a hot link, etc.

33/5/8 (Item 4 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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015692555 **Image available**

WPI Acc No: 2003-754744/200371

Related WPI Acc No: 2002-081656; 2003-896322

XRPX Acc No: N03-604704

Hybrid database system for multimedia data, has table for storing extensions for object, having object identifications and attributes associated with respective object

Patent Assignee: SILICON GRAPHICS INC (SILI-N)

Inventor:) MENON S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6615204	B1	20030902	US 96644686	A	19960531	200371 B
			US 2000541531	A	20000403	

Priority Applications (No Type Date): US 2000541531 A 20000403; US 96644686 A 19960531

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6615204 B1 32 G06F-017/30 CIP of application US 96644686

Abstract (Basic): US 6615204 B1

NOVELTY - A fixed mapped table has used tables comprising identification (ID) of objects with respective asset type. A table (102) for storing extension for the objects, has tables for each asset type comprising associated object IDs and attributes. The attribute specific metadata tables (1106a-n) stores object IDs with respective attributes. A program interface automatically relates the objects in the fixed mapped table to the respective extensions through stored object IDs.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for method for mapping objects into a database storage.

USE - For mapping data objects e.g. multimedia data comprising voice and video e.g. animation film, computer animation film, video game, interactive movies, news clips, educational multimedia products, corporate multimedia productions, multimedia sales catalogs, still video image analog and/or off line recordings, paper drawings, video clip, scanned incline drawings, inked and printed drawings back ground, color model, inspirational artwork, three-dimensional model, X sheets

and production spreadsheet created during process of multimedia productions within database storage in shared multimedia environment such as asset management system.

ADVANTAGE - Mapping is efficient. Since the extensions capture the changes and updates to objects over their life times. Hence, schema evolution problems and costs associated with the extending objects are avoided. Fixed mapping minimizes processing overhead for accessing the objects that do not change over their life times. This provides high speed database performance and high flexibility during storage, retrieval and query operations and minimizes processing penalty paid for accessing extensions. Storage space is utilized efficiently.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the **hybrid database** system.

asset table (1102)
entries (1104a-n,1108a-n)
meta data tables (1106a-n)
pp; 32 DwgNo 11/14

Title Terms: HYBRID; DATABASE; SYSTEM; DATA; TABLE; STORAGE; EXTEND; OBJECT
; OBJECT; IDENTIFY; ATTRIBUTE; ASSOCIATE; RESPECTIVE; OBJECT

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

33/5/10 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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015476203 **Image available**

WPI Acc No: 2003-538349/200351

Method for visualizing path expression in object - relational dbms

Patent Assignee: ELECTRONICS & TELECOM RES INST (ELTE-N)

Inventor: CHO W S; CHOI W; PARK Y M; YOO H Y

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
KR 2003027473	A	20030407	KR 200160775	A	20010928	200351 B

Priority Applications (No Type Date): KR 200160775 A 20010928

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
KR 2003027473	A		1 G06F-017/30	

Abstract (Basic): KR 2003027473 A

NOVELTY - A method for visualizing path expression in **object - relational DBMS** is provided to prepare various and sophisticated queries in a graphical query language.

DETAILED DESCRIPTION - If a client selects a corresponding database(S10) and selects a corresponding class(S20), a GQL(Graphical Query Language) system reads attribute information from a system catalogue of an **ORDEMS (Object - Relational DBMS)**, and writes the read attribute information(S100). The GQL system displays the attribute information in a line of a class box(S30). If the client executes a double click of a query objected attribute(S200), a domain class of the attribute is decided, the GQL system reads the attribute information from an ORDB(Object-Relational DataBase), and creates new class box(S300). If the client clicks a wanted attribute in an attribute list of new class box, the GQL system reads information corresponded to a domain class of the attribute from the ORDB, and creates another class box(S400). If the client checks a path expression displayed as three class boxes, the client selects and inputs a wanted operator and

condition value in an operator column and a condition value column out of three class boxes(S500). Thus, a query condition with respect to an attribute is prepared(S40). The GQL system converts a graphic query of a client into a text query, and transmits the query to the ORDEMS (S50).

pp; 1 DwgNo 1/10

Title Terms: METHOD; PATH; EXPRESS; OBJECT; RELATED

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

33/5/13 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015167561 **Image available**

WPI Acc No: 2003-228089/200322

XRPX Acc No: N03-181360

Hybrid database record similarity determination method involves selecting appropriate matching process according to data fields of records

Patent Assignee: MITRE CORP (MITR-N)

Inventor: BLOEDORN E

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020152208	A1	20021017	US 2001273807	P	20010307	200322 B
			US 200291932	A	20020306	

Priority Applications (No Type Date): US 2001273807 P 20010307; US 200291932 A 20020306

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020152208	A1		8	G06F-007/00	Provisional application US 2001273807

Abstract (Basic): US 20020152208 A1

NOVELTY - A pair of records (36-1,36-2) to be evaluated, are accessed and an appropriate matching process is selected according to the data fields (44) of the records. When strict Boolean (26) or vector based matching process (30) is selected, exact match test and vector space frequency test are respectively applied. When ordinal matching processing (28) is selected, a match function that makes use of data domain information is applied.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for data processing system.

USE - For determining similarity in records of hybrid database having both free-text and structured data, used in aviation safety, airline safety applications.

ADVANTAGE - As matching processes are appropriately selected, the need for the fields to be stored in a particular order or particular type of data in particular fields is eliminated.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the data processing system.

Boolean (26)

Ordinal matching processing (28)

vector based matching process (30)

Records (36-1,36-2)

Data fields (44)

pp; 8 DwgNo 1/2

Title Terms: HYBRID; DATABASE; RECORD; SIMILAR; DETERMINE; METHOD; SELECT;

APPROPRIATE; MATCH; PROCESS; ACCORD; DATA; FIELD; RECORD
Derwent Class: T01; W06
International Patent Class (Main): G06F-007/00
File Segment: EPI

33/5/14 (Item 10 from file: 350)

DIALOG(R) File 350:Derwent WPIX
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014979115 **Image available**

WPI Acc No: 2003-039629/200303

Related WPI Acc No: 2001-432376; 2001-625902; 2002-414155; 2003-039626;
2003-058087; 2003-220403; 2003-902144; 2004-060691; 2004-061065

XRPX Acc No: N03-030991

Database management system e.g. RDBMS for Internet URL directory systems, has integrated multidimensional data aggregation module and relational datastore between which bidirectional data flow occurs for exchanging data

Patent Assignee: HYPERROLL ISRAEL LTD (HYPE-N)

Inventor: BAKALASH R; CASPI J; SHAKED G

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020129032	A1	20020912	US 2000514611	A	20000228	200303 B
			US 2000634748	A	20000809	
			US 2001796098	A	20010228	
			US 200136734	A	20011107	

Priority Applications (No Type Date): US 2001796098 A 20010228; US
2000514611 A 20000228; US 2000634748 A 20000809; US 200136734 A 20011107

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020129032	A1		71	G06F-007/00	CIP of application US 2000514611
					CIP of application US 2000634748
					Cont of application US 2001796098
					CIP of patent US 6385604

Abstract (Basic): US 20020129032 A1

NOVELTY - The DBMS has an integrated multidimensional data aggregation module connected to a relational datastore. Bidirectional data flow occurs between the relational datastore and the integrated aggregation module such that the data stored in the relational datastore is loaded into the aggregation module and the aggregated data stored in the aggregation module is communicated to the relational datastore.

USE - E.g. relational DBMS (RDBMS), object DBMS (ODBMS), **object - relational DBMS (ORDBMS)** for multidimensional online analytical processing systems (MOLAP), relational (OLAP) systems, Internet URL directory systems, personalized online e-commerce shopping systems, Internet based systems.

ADVANTAGE - Provides improved response time in handling queries issued to the DBMS, thus enabling enterprise-wide centralized aggregation. Minimizes the data handling operations in multi-hierarchy data structures, and eliminates the need to wait for full aggregation to be complete.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic block diagram of stand-alone aggregation server.

pp; 71 DwgNo 6B/22

Title Terms: DATABASE; MANAGEMENT; SYSTEM; DIRECTORY; SYSTEM; INTEGRATE;
MULTIDIMENSIONAL; DATA; AGGREGATE; MODULE; RELATED; BIDIRECTIONAL; DATA;

FLOW; OCCUR; EXCHANGE; DATA
Derwent Class: T01
International Patent Class (Main): G06F-007/00
International Patent Class (Additional): G06F-017/00
File Segment: EPI

33/5/15 (Item 11 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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014979112 **Image available**
WPI Acc No: 2003-039626/200303
Related WPI Acc No: 2001-432376; 2001-625902; 2002-414155; 2003-039629;
2003-058087; 2003-220403; 2003-902144; 2004-060691; 2004-061065
XRPX Acc No: N03-030988

Database management system e.g. ORDBMS for on-line analytical processing operation, retrieves portions of aggregated data identified based on reference, relevant to query statement by communicating with aggregation module

Patent Assignee: BAKALASH R (BAKA-I); CASPI J (CASP-I); SHAKED G (SHAK-I)
Inventor: BAKALASH R; CASPI J; SHAKED G
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020129003	A1	20020912	US 2000514611	A	20000228	200303 B
			US 2000634748	A	20000809	
			US 2001796098	A	20010228	
			US 200135915	A	20011107	

Priority Applications (No Type Date): US 2001796098 A 20010228; US 2000514611 A 20000228; US 2000634748 A 20000809; US 200135915 A 20011107
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020129003	A1		72	G06F-007/00	CIP of application US 2000514611 CIP of application US 2000634748 Cont of application US 2001796098 CIP of patent US 6385604

Abstract (Basic): US 20020129003 A1

NOVELTY - A reference generator provides reference to data stored in tables of a relational data store and to aggregate data stored in non-relational data store by an aggregation module. A query processor communicates with the aggregation module to retrieves portion of aggregated data identified by the generated aggregated data reference, relevant to query statement.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for method for aggregating data stored in the tables of the relational data store and providing query access to the aggregate data.

USE - Database management system (DBMS) e.g. object database management system (ODBMS), **object relational database management system (ORDBMS)** for on-line analytical processing (OLAP) operation.

ADVANTAGE - Improved response time in handling queries issued to the DBMS, enabling enterprise-wide centralized aggregation. Segmented aggregation provides flexibility, scalability, capability of query directed aggregation (QDA), and speed improvement. QDA minimizes data handling operations in multi-hierarchy data structures, eliminates the need to wait for completion of full aggregation.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic view of

the multi-dimensional on-line analytical processing (MOLAP) system.

pp; 72 DwgNo 6B/22

Title Terms: DATABASE; MANAGEMENT; SYSTEM; LINE; ANALYSE; PROCESS; OPERATE;
RETRIEVAL; PORTION; AGGREGATE; DATA; IDENTIFY; BASED; REFERENCE; RELEVANT
; QUERY; STATEMENT; COMMUNICATE; AGGREGATE; MODULE

Derwent Class: T01

International Patent Class (Main): G06F-007/00

File Segment: EPI

33/5/16 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014605229 **Image available**

WPI Acc No: 2002-425933/200245

XRPX Acc No: N02-334926

**Personal contact information extraction for automated information
exchange system, involves matching received identification index with
unique identification of contact record**

Patent Assignee: ANTS.COM INC (ANTS-N)

Inventor: BROWN J; CARMEL J; DAVIS R; GIESLMANN T; MANKIN D; NOLEN J

Number of Countries: 093 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200225403	A2	20020328	WO 2001US29366	A	20010920	200245 B
AU 200192838	A	20020402	AU 200192838	A	20010920	200252

Priority Applications (No Type Date): US 2001234020 A 20010920; US
2000234020 P 20000920; US 2000238273 P 20001005

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200225403	A2	E	32	G06F-000/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT
RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200192838 A G06F-000/00 Based on patent WO 200225403

Abstract (Basic): WO 200225403 A2

NOVELTY - A database with personalized contact records each having
a unique identification index contributed by a contact record provider,
is established. A query with information index from a requester is
received. The received index query is matched with unique
identification index of a particular contact record. The contact record
matching with the unique identification index is forwarded to the
source locus and then to the requestor.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
automated information exchange system.

USE - In automated information exchange system for automatically
updating and synchronizing a local contact manager with centralized
universal database.

ADVANTAGE - Establishes efficient information maintenance and
extraction. The engine forms an association between the requesting
party and the provider of contact record.

DESCRIPTION OF DRAWING(S) - The figure shows an exemplary shot of a
contact management new contact record including client software
interfaces.

pp; 32 DwgNo 1/10

Title Terms: PERSON; CONTACT; INFORMATION; EXTRACT; AUTOMATIC; INFORMATION;
EXCHANGE; SYSTEM; MATCH; RECEIVE; IDENTIFY; INDEX; UNIQUE; IDENTIFY;
CONTACT; RECORD
Derwent Class: T01
International Patent Class (Main): G06F-000/00
File Segment: EPI

33/5/17 (Item 13 from file: 350)

DIALOG(R) File 350: Derwent WPIX
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014408920

WPI Acc No: 2002-229623/200229

XRPX Acc No: N02-176597

Temporal interval storage method for databases using an arbitrary index structure to support temporal range queries

Patent Assignee: KRIEGL H (KRIE-I); POETKE M (POET-I); SEIDL T (SEID-I)

Inventor: KRIEGL H; POETKE M; SEIDL T

Number of Countries: 025 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1160682	A1	20011205	EP 2000112031	A	20000602	200229 B

Priority Applications (No Type Date): EP 2000112031 A 20000602

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
EP 1160682	A1	E 35	G06F-017/30	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): EP 1160682 A1

NOVELTY - The Relational interval (RI) tree manages intervals by two relational indexes. For storing n intervals, $O(n/b)$ disk pages are necessary, and inserting or deleting an interval requires $O(\log_{bn})$ I/O operations where b denotes the disk block size following (MTT 00). For reporting the r intervals that intersect a given query interval, $O(h \cdot \log_{bn} + r/b)$ I/Os are required. The height h of the virtual backbone reflects the current expansion and granularity of the data space and is independent of the number n of intervals.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

(1) a data structure for storing time interval data.

(2) a method of access a data structure

(3) a computer program for storing and accessing a data structure.

USE - For providing a time interval class to relational and object databases

ADVANTAGE - This storage method combines optimal interval structure with efficient disk-oriented indexing techniques allowing the structure to reside in main memory, avoiding the need for a custom secondary storage unit. Built-in indexes are used on an as-they-are basis without any augmentation of the internal data structure. Thus, no interface below the SQL level is required, and any arbitrary off-the-shelf RDBMS supports the technique. Moreover, intrusive extensions which are typical for previous interval access methods are even not supported by modern ORDBMS. A proper integration with existing RDBMS is an essential aspect for most industrial or commercial applications. By using built-in relational index structures, their strong robustness, performance and integration into transaction management (including recovery mechanisms and concurrently control) is for free. Thus, a lot of implementation efforts and code maintenance is avoided by a relational storage structure in contrast to typical external memory

solutions. The efficiency of the RI-tree is based on the logarithmic I/O complexity of the underlying relational system for one-dimensional range queries on point data. Almost all RDBMS qualify for this quite weak requirement since they typically have implemented the popular B+-tree. By virtualizing the backbone structure of the original main-memory method and storing the intervals in relational indexes, a high efficiency for the RI-tree is achieved. In addition to its efficient support by any off-the-shelf RDBMS, the Relational Interval Tree perfectly fits to the object-relational facilities of modern DBMS including the Oracle8i Server (Ora 99a), the Informix Universal Server (Inf 98) or the IBM DB2 **Universal Database** (IBM 99). These systems support integrating the RI-Tree with the declarative SQL level as well as with the relational query optimizer.

pp; 35 DwgNo 0/18

Title Terms: TEMPORAL; INTERVAL; STORAGE; METHOD; ARBITRARY; INDEX; STRUCTURE; SUPPORT; TEMPORAL; RANGE; QUERY

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

33/5/18 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014251471 **Image available**

WPI Acc No: 2002-072171/200210

XRPX Acc No: N02-053897

Hybrid database system has SQL command assembly unit to analyze order relationship table based on SQL command result

Patent Assignee: FUJITSU LTD (FUJIT)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2001325133	A	20011122	JP 200167681	A	20010309	200210 B

Priority Applications (No Type Date): JP 200065419 A 20000309

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001325133	A		8	G06F-012/00	

Abstract (Basic): JP 2001325133 A

NOVELTY - An order relationship table (ORT) (11) stores hierarchical relationship in a network database and order relationship between records based on pointer data stored in a data table (10). A standard query language (SQL) command assembly unit (14) analyzes ORT based on SQL command result. Data table of network database is accessed through ORT in an application process based on DML command.

USE - **Hybrid database** system of network system.

ADVANTAGE - Enables network database operation by control of multiple database structures using SQL command assembly unit and DML command analysis unit.

DESCRIPTION OF DRAWING(S) - The figure shows the principal explanatory drawing of **hybrid database** system. (Drawing includes non-English language text).

Data table (10)

Order relationship table (11)

Command assembly unit (14)

pp; 8 DwgNo 1/9

Title Terms: HYBRID; DATABASE; SYSTEM; SQL; COMMAND; ASSEMBLE; UNIT; ORDER; RELATED; TABLE; BASED; SQL; COMMAND; RESULT

Derwent Class: T01
International Patent Class (Main): G06F-012/00
File Segment: EPI

33/5/19 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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014016959

WPI Acc No: 2001-501173/200155

XRPX Acc No: N01-371558

Exploitation of db2 universal database design rules in graphical representations

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
RD 439106	A	20001110	RD 2000439106	A	20001020	200155 B

Priority Applications (No Type Date): RD 2000439106 A 20001020

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RD 439106	A		2	G06F-000/00	

Abstract (Basic): RD 439106 A

NOVELTY - Relational and physical database design is driven by a database designer's heuristic knowledge of database design. The present invention utilizes a set of DB2 designer rules derived for DB2

Universal Database (UDB) Parallel Edition and DB2 UDB physical database objects.

DETAILED DESCRIPTION - These rules are useful to designers in the performance of various tasks in physical design, such as the creation of indexes to optimize the access path for minimal costs; the assignment of tables to appropriate tablespaces; or in the parallel database environment, table collocation, which will occur if two large sized tables are involved in frequent joins. Each design advice action is connected to a set of heuristic rules. Through the graphical representation of DB2 UDB design rules users can access the set of rules and tailor the set or individual rules to meet the need of their database applications. Examples of rule sets include activate rules, deactivate rules and modify rules. A set of heuristic rules takes the provided data load and workload values when it generates a design proposal. If no information is available, the heuristic rule set will use predefined default values with its rule. The following figure shows Creation of Index Rules using graphical representations. The advice generated using the rule set is given in the form of a report that lists the design steps to consider. When design proposals are requested, one can either accept or reject a design proposal. The following two figures show proposed actions and a proposed report for a table object using graphical representations.

USE - None given.

pp; 2 DwgNo 0/0

Title Terms: EXPLOIT; UNIVERSAL; DATABASE; DESIGN; RULE; GRAPHICAL;
REPRESENT

Derwent Class: T01

International Patent Class (Main): G06F-000/00

File Segment: EPI

33/5/20 (Item 16 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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013890943 **Image available**

WPI Acc No: 2001-375156/200140

XRPX Acc No: N01-274553

Method for creating a hierarchy view on top of table hierarchy in relational database management system by generating internal hierarchy view from table hierarchy and user defined table type hierarchy

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: CAREY M J; LAPIS G; PIRAHESH M H; RIELAU S P; VANCE B

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2310577	A1	20010130	CA 2310577	A	20000602	200140 B
US 6421658	B1	20020716	US 99365590	A	19990730	200248
CA 2310577	C	20031118	CA 2310577	A	20000602	200382

Priority Applications (No Type Date): US 99365590 A 19990730

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2310577	A1	E	44	G06F-017/30	
US 6421658	B1			G06F-017/30	
CA 2310577	C	E		G06F-017/30	

Abstract (Basic): CA 2310577 A1

NOVELTY - The method involves storing a user definition for the table hierarchy, and a user defined table type hierarchy. An internal hierarchy view is then generated from the table hierarchy and the user defined table type hierarchy. The internal hierarchy view comprises a single unified view on the table hierarchy.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(a) a computer program product for use on a computer for retrieving data from tables stored in memory

(b) a relational database management system

USE - In an **object - relational database management system**
(ORDEMS)

ADVANTAGE - Enriches tables and views in a relational database management system with the concept of hierarchies and typed rows comprising classes and objects. Allows subsequent query rewrite to eliminate all unneeded access to physical tables, which reduces the access to nearly the one chosen when not using the view at all, this is transparent and scaleable. Overcomes cheaply the problems of inserting and updating through the hierarchies, which otherwise might be expensive.

DESCRIPTION OF DRAWING(S) - The drawing shows a flowchart from a method for building a type map according to the present invention.

pp; 44 DwgNo 4/6

Title Terms: METHOD; HIERARCHY; VIEW; TOP; TABLE; HIERARCHY; RELATED; DATABASE; MANAGEMENT; SYSTEM; GENERATE; INTERNAL; HIERARCHY; VIEW; TABLE; HIERARCHY; USER; DEFINE; TABLE; TYPE; HIERARCHY

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

33/5/21 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011480738 **Image available**

WPI Acc No: 1997-458643/199743

XRPX Acc No: N97-381853

Hybrid database searching system - performing Boolean search to obtain set of documents satisfying condition, determining relevance to second condition using probabilistic computation, and using different indexes contg. component that can be processed by both methods

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: BYRD R J; GOESER S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19609549	A1	19970918	DE 1009549	A	19960312	199743 B

Priority Applications (No Type Date): DE 1009549 A 19960312

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19609549	A1		8	G06F-017/30	

Abstract (Basic): DE 19609549 A

The database contains a number of documents [D1,D2 etc] that have access variables [B1,B2 etc] for identification. The access variables and the document combinations are listed in a table. The indicate the presence of a document by a logical 1 and the absence by a logical 0.

In searching for a document, a specific condition may be applied in Boolean logic form e.g. in searching for documents relating to a road vehicle system a specific manufacturer can be exclude by a logical NOT function. A second search is based on a probabilistic method.

USE - Database searching. Improved indexing method.

Dwg.1/3

Title Terms: HYBRID; DATABASE; SEARCH; SYSTEM; PERFORMANCE; BOOLEAN; SEARCH ; OBTAIN; SET; DOCUMENT; SATISFY; CONDITION; DETERMINE; RELEVANT; SECOND; CONDITION; PROBABILITY; COMPUTATION; INDEX; CONTAIN; COMPONENT; CAN; PROCESS; METHOD

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

33/5/22 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010947123

WPI Acc No: 1996-444073/199645

XRPX Acc No: N96-373925

Telecommunication device with relational database - has interface to data processor which runs application software and database driving software and provides development of requests for different applications

Patent Assignee: SIEMENS AG (SIEI)

Inventor: DE MOL C

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19541315	A1	19961002	DE 1041315	A	19951106	199645 B

Priority Applications (No Type Date): DE 1041315 A 19951106

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19541315	A1		4	H04M-003/42	

Abstract (Basic): DE 19541315 A

The telecommunication device includes an interface to a data processing system which can run application software and data base driving software. The database driving software includes at least a **universal database** manager and a database driver specific to each type of database.

The two types of software communicate with each other via standardised software interfaces and with the database. The application support standardised query languages on the basis of a relational data model. At least one of the applications supports Structured Query Language (SQL).

USE/ADVANTAGE - Telecommunication with e.g. call diversion. Easy access to data.

Dwg.0/0

Title Terms: TELECOMMUNICATION; DEVICE; RELATED; DATABASE; INTERFACE; DATA; PROCESSOR; RUN; APPLY; SOFTWARE; DATABASE; DRIVE; SOFTWARE; DEVELOP; REQUEST; APPLY

Derwent Class: T01; W01

International Patent Class (Main): H04M-003/42

International Patent Class (Additional): G06F-017/30 ; H04M-001/00

File Segment: EPI

33/5/23 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010298788 **Image available**

WPI Acc No: 1995-200048/199526

XRPX Acc No: N95-157164

File-based database access method - combining multiple concurrent access and network server commercial compatibility of commercial database with file oriented data structure of source code control system

Patent Assignee: MOTOROLA INC (MOTI)

Inventor: CARTER R N; HIGGINS W F; LEE R O

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5418945	A	19950523	US 92884816	A	19920518	199526 B

Priority Applications (No Type Date): US 92884816 A 19920518

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5418945	A		8 G06F-017/00	

Abstract (Basic): US 5418945 A

The database access method operates on a file based and highly available **hybrid database** using resident databases (16, 17, 18) on data control computer systems (31, 32, 33) which are linked together as part of a computer network (29). Resident databases (16, 17, 18) are selected to store master file groups (19,21,22,23) the information being copied to other resident databases (16, 17, 18).

All database transactions are controlled by interacting client (11) and server (12, 13, 14) processes using the computer network (29) to copy a master file group (19, 21, 22, 23) to the client system for use and then restores the master file group (19, 21, 22, 23) to the appropriate master database (16, 17, 18).

USE/ADVANTAGE - Accessing file-based databases that are linked together across computer network in e.g factory automation. Provides **hybrid database** which combines multiple concurrent access and network server compatibility of commercial databases with file oriented

data structure of source code control systems. Ensures validity and integrity of files on database.

Dwg.1/5

Title Terms: FILE; BASED; DATABASE; ACCESS; METHOD; COMBINATION; MULTIPLE;
CONCURRENT; ACCESS; NETWORK; SERVE; COMMERCIAL; COMPATIBLE; COMMERCIAL;
DATABASE; FILE; ORIENT; DATA; STRUCTURE; SOURCE; CODE; CONTROL; SYSTEM

Derwent Class: T01

International Patent Class (Main): **G06F-017/00**

International Patent Class (Additional): **G06F-012/00**

File Segment: EPI

32/5/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015692552 **Image available**

WPI Acc No: 2003-754741/200371

XRPX Acc No: N03-604701

Method of obtaining language query results in computer network management system, involves translating query execution plan into simple network management protocol calls and executing these calls to obtain query results

Patent Assignee: LUCENT TECHNOLOGIES (LUCE)

Inventor: SESHADRI S; SILBERSCHATZ A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6615201	B1	20030902	US 2000558425	A	20000425	200371 B

Priority Applications (No Type Date): US 2000558425 A 20000425

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6615201	B1	12	G06F-017/30	

Abstract (Basic): US 6615201 B1

NOVELTY - A declarative language query **execution plan** computed using a query **optimizer** , is transmitted to each enhanced network element. The query plan is translated into a sequence of simple network management protocol (SNMP) calls using a SNMP wrapper. The calls are executed to obtain a corresponding sequence of query results which are output to a network unit from the network elements.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the language query result obtaining apparatus.

USE - For obtaining language query results in computer network management system.

ADVANTAGE - The network management traffic is reduced. The management information is filtered efficiently and the network elements are enhanced through the use of database technology to process declarative queries and to support triggers.

DESCRIPTION OF DRAWING(S) - The figure shows a flow diagram of the query result obtaining method.

pp; 12 DwgNo 2/6

Title Terms: METHOD; OBTAIN; LANGUAGE; QUERY; RESULT; COMPUTER; NETWORK; MANAGEMENT; SYSTEM; TRANSLATION; QUERY; EXECUTE; PLAN; SIMPLE; NETWORK; MANAGEMENT; PROTOCOL; CALL; EXECUTE; CALL; OBTAIN; QUERY; RESULT

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-015/16 ; G06F-015/173

File Segment: EPI

32/5/14 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015393699 **Image available**

WPI Acc No: 2003-455840/200343

Related WPI Acc No: 2002-424570

XRPX Acc No: N03-362448

Query workload relevant statistics determination method for computer database system, involves calculating projected query plans by assigning

predetermined selectivity values to potentially relevant statistics

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: CHAUDHURI S; NARASAYYA V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6529901	B1	20030304	US 99342988	A	19990629	200343 B
			US 2000513833	A	20000225	

Priority Applications (No Type Date): US 2000513833 A 20000225; US 99342988 A 19990629

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6529901	B1	28	G06F-017/30		CIP of application US 99342988
					CIP of patent US 6363371

Abstract (Basic): US 6529901 B1

NOVELTY - The projected query plans are calculated, by assigning a variety of predetermined selectivity values to potentially relevant statistics and by evaluating **cost** for **execution plans** developed for each selectivity **value** assignment. A set of essential statistics is formed based on the projected query plans.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) candidate statistic utility evaluation method;
- (2) automated database statistics management provision method;
- (3) computer readable medium storing query workload relevant statistics **determination** program;
- (4) computer readable medium storing candidate statistics utility evaluation program;
- (5) computer readable medium storing automated database management program;
- (6) query workload relevant statistics **determination** apparatus;
- (7) candidate statistic utility evaluation apparatus; and
- (8) automated database management apparatus.

USE - For **determining** statistics relevant to query workload in computer database system.

ADVANTAGE - Minimizes the overhead associated with statistics by constructing initial set of essential statistics that provides the query **optimizer** with the ability to choose among **execution plans** with minimized loss in accuracy.

DESCRIPTION OF DRAWING(S) - The figure shows the flow diagram illustrating query workload relevant statistics **determination** procedure.

pp; 28 DwgNo 6/15

Title Terms: QUERY; RELEVANT; STATISTICAL; **DETERMINE** ; METHOD; COMPUTER; DATABASE; SYSTEM; CALCULATE; PROJECT; QUERY; PLAN; ASSIGN; PREDETERMINED; SELECT; **VALUE** ; POTENTIALLY; RELEVANT; STATISTICAL

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/15 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015393630 **Image available**

WPI Acc No: 2003-455771/200343

XRPX Acc No: N03-362381

Query rewrite method in heterogeneous database environment, involves updating stored results of pushdownability of original query based on pushdownability of rewritten portion of query

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: LIN E T; MUKAI T L; VENKATARAMAN S; ZHANG T
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6526403	B1	20030225	US 99466492	A	19991217	200343 B

Priority Applications (No Type Date): US 99466492 A 19991217

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6526403	B1	22	G06F-017/30	

Abstract (Basic): US 6526403 B1

NOVELTY - A portion of database query is rewritten and subjected to pushdown analysis. The prestored results of pushdown analysis of the database query, are updated to reflect the pushdownability of the rewritten portion, if the pushdownability of the rewritten portion is greater than that of the original.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (1) computer program product for rewriting database query; and
- (2) database query rewriting system.

USE - For rewriting database query in heterogeneous database environment comprising personal computer, workstation, handheld computer, that preserves optimal pushdownability.

ADVANTAGE - Efficiently preserves pushdownability of heterogeneous queries. Provides heterogeneous query **optimizer** more alternatives for generating **execution plans** and increases execution performance by updating stored results of pushdown analysis, based on pushdownability of rewritten and original portions of database query.

DESCRIPTION OF DRAWING(S) - The figure shows the logical diagram representing software phases used for query compilation.

pp; 22 DwgNo 3/9

Title Terms: QUERY; REWRITING; METHOD; HETEROGENEOUS; DATABASE; ENVIRONMENT
; UPDATE; STORAGE; RESULT; ORIGINAL; QUERY; BASED; REWRITING; PORTION;
QUERY

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/16 (Item 16 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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015331164 **Image available**

WPI Acc No: 2003-392099/200337

XRPX Acc No: N03-313237

Decision support system used in supporting business units including electricity energy production operations, comprises risk management model to provide risk tolerance factors for utilizing forecasts

Patent Assignee: HARPER C N (HARP-I)

Inventor: HARPER C N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030023466	A1	20030130	US 2001916548	A	20010727	200337 B

Priority Applications (No Type Date): US 2001916548 A 20010727

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 20030023466 A1 12 G06F-017/60

Abstract (Basic): US 20030023466 A1

NOVELTY - A decision support system comprises a risk management model to provide risk tolerance factors for utilizing the forecasts.

DETAILED DESCRIPTION - A decision support system comprises a contract valuation model for **determining** a **value** of existing and potential electrical energy contracts; a financial position management model for supporting purchases and sales of energy related financial instruments; a potential action valuation model for providing a **value** of potential short term electrical energy sales opportunities; a forecasting and planning model for providing forecasts of commodity **prices** utilized by the contract valuation model and the financial position model; a risk management model to provide risk tolerance factors for utilizing the forecasts; supply chain **optimizer** model for optimizing supply routing and schedules; and a data delivery engine for supplying data to the contract valuation model, the financial position management model, potential action valuation model, the forecasting and planning model, the risk management model and the supplying chain **optimizer** model.

An INDEPENDENT CLAIM is also included for a method for a decision support system for purchasing and selling electricity comprising providing a forecasting model for producing long and short term forecasts of commodity **prices** utilizing historical and real time data; providing a contract evaluation model in communication the forecasting model for evaluating existing and potential electrical delivery contracts based on real time commodity **prices** and forecasted commodity **prices** ; and providing a potential action evaluation model for evaluating potential opportunities of sales of electricity with specific starting and ending times bases on the real time data output capabilities of electrical generating units.

USE - Used in supporting business units including electricity energy production operations, electricity energy contract sales, management, and supplies.

ADVANTAGE - The system provides greater control over the faster changing industrial environments which will be created by increasing deregulation, thus lowers **cost** , enhances communications and speed of operation, improves efficiency and increases public safety.

DESCRIPTION OF DRAWING(S) - The figure is a schematic view of a power system.

pp; 12 DwgNo 1/5

Title Terms: **DECIDE** ; SUPPORT; SYSTEM; SUPPORT; BUSINESS; UNIT; ELECTRIC; ENERGY; PRODUCE; OPERATE; COMPRISE; RISK; MANAGEMENT; MODEL; RISK; TOLERANCE; FACTOR; UTILISE; FORECAST

Derwent Class: T01

International Patent Class (Main): G06F-017/60

File Segment: EPI

32/5/17 (Item 17 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015186996 **Image available**

WPI Acc No: 2003-247529/200324

XRPX Acc No: N03-196737

Negated nested query performing method for relational database management system, involves judging whether order of joins produce semantically correct answer, when executed, by extending normal eligibility list

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: LINDSAY B G; LOHMAN G M; PIRAHESH M H; RAO J

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020188600	A1	20021212	US 2001809846	A	20010315	200324 B
US 6665663	B2	20031216	US 2001809846	A	20010315	200382

Priority Applications (No Type Date): US 2001809846 A 20010315

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020188600	A1		36	G06F-007/00	
US 6665663	B2			G06F-017/30	

Abstract (Basic): US 20020188600 A1

NOVELTY - Query **execution plans** (QEPs) each comprising order of inner, outer and anti-joins, are generated. A normal eligibility list (NEL) containing reference **table** for predicating **join**, is extended using an extended eligibility list (EEL) containing an additional **table** for conflict **join** predicates. The order of joins is judged whether a semantically correct answer is produced, when executed, by extending NEL.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) computer implemented apparatus for query performing; and
- (2) manufacture embodying logic article for query performing method.

USE - For performing negated nested query in relational database management system.

ADVANTAGE - The order of join evaluation is changed to minimize an estimated past and can improve execution time. The semantics of the original query is preserved by EEL. The **optimizer** will not combine subplans using join predicate whose EEL is not covered in two subplans to be merged, and choose the best alternative plan. The **optimizer** can generate many desired legal alternatives to evaluate the cost.

DESCRIPTION OF DRAWING(S) - The figure shows the flow process for interpretation and execution of SQL statement in interactive environment.

pp; 36 DwgNo 2/13

Title Terms: NEGATE; NEST; QUERY; PERFORMANCE; METHOD; RELATED; DATABASE; MANAGEMENT; SYSTEM; JUDGEMENT; ORDER; JOIN; PRODUCE; CORRECT; ANSWER; EXECUTE; EXTEND; NORMAL; LIST

Derwent Class: T01

International Patent Class (Main): G06F-007/00 ; G06F-017/30

File Segment: EPI

32/5/18 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015079134 **Image available**

WPI Acc No: 2003-139652/200313

XRPX Acc No: N03-110962

Performance optimization method for bulk data transfer between computer systems, involves passing throughput relevant information to knowledge base which generates performance parameter set

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: ERDMENGER J; KUBIK M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020174267	A1	20021121	US 200129479	A	20011221	200313 B

Priority Applications (No Type Date): EP 2001100247 A 20010103

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 20020174267	A1	13	G06F-007/00	

Abstract (Basic): US 20020174267 A1

NOVELTY - The throughput relevant information is gathered from system components involved in the transfer. A knowledge base (18) that holds algorithms and data on relations and combinations of throughput relevant information is established. The gathered information is passed to the knowledge base which is used for generating a set of performance parameters to achieve maximum data throughput.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) Apparatus for performance optimizing transfer of bulk data between computer systems; and

(2) Program product for performance optimizing bulk data transfer.

USE - For performance optimizing transfer of bulk data between computer systems.

ADVANTAGE - The **determined** set of performance parameters allow transfer of a maximum data within a minimum **amount** of time and reduction of the expenditure for the system, and reduction of the expenditure for the system set up and configuration before the transfer is started. Frees the administrator of a computer system from an empirical setup of system parameters to increase the performance of data backup and restore operations.

DESCRIPTION OF DRAWING(S) - The figure shows a general block diagram of computer system comprising data transfer performance optimizer .

Knowledge base (18)

pp; 13 DwgNo 1/5

Title Terms: PERFORMANCE; OPTIMUM; METHOD; BULK; DATA; TRANSFER; COMPUTER; SYSTEM; PASS; THROUGHPUT; RELEVANT; INFORMATION; BASE; GENERATE; PERFORMANCE; PARAMETER; SET

Derwent Class: T01

International Patent Class (Main): G06F-007/00

File Segment: EPI

32/5/19 (Item 19 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015042170 **Image available**

WPI Acc No: 2003-102686/200309

XRPX Acc No: N03-082041

Shared data load optimization method in computer, involves determining location of unresolved data module at load time and modifying load instruction to directly load unresolved data module at determined location

Patent Assignee: COUTANT C A (COUT-I); HEWLETT-PACKARD DEV CO LP (HEWP)

Inventor: COUTANT C A

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020147718	A1	20021010	US 2001826273	A	20010404	200309 B
US 6665671	B2	20031216	US 2001826273	A	20010404	200382

Priority Applications (No Type Date): US 2001826273 A 20010404

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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US 20020147718	A1	14	G06F-007/00	
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US 6665671	B2		G06F-017/30	
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Abstract (Basic): US 20020147718 A1

NOVELTY - A **linkage table** is provided for the computer program, when the load instruction in the program loads an unresolved data module. The location of the unresolved data module is determined at load time of program and the load instruction is modified at the load time to directly load the unresolved data module at the determined location.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) Data load optimization system; and
- (2) Computer-readable medium storing shared data load optimization program.

USE - For optimizing shared data load in program running in computer.

ADVANTAGE - Enables displacement of module **linkage table** to be set at compile time and not at run time to avoid problems of rewriting code at load time and allows the remote unresolved module data to be changed at any time, without constantly changing the module, thus providing more flexibility for the programmer to optimize access of the shared data load in computer program.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of a user system showing a dynamic loader process with data load **optimizer**

pp; 14 DwgNo 1/7

Title Terms: SHARE; DATA; LOAD; OPTIMUM; METHOD; COMPUTER; DETERMINE; LOCATE; DATA; MODULE; LOAD; TIME; MODIFIED; LOAD; INSTRUCTION; LOAD; DATA ; MODULE; DETERMINE; LOCATE

Derwent Class: T01

International Patent Class (Main): G06F-007/00 ; G06F-017/30

File Segment: EPI

32/5/20 (Item 20 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014974839 **Image available**

WPI Acc No: 2003-035353/200303

XRPX Acc No: N03-028282

Information processing system determines document format based on similarity between registered and read document images after altering initial resolution

Patent Assignee: CANON KK (CANO)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2002334087	A	20021122	JP 2001136553	A	20010507	200303 B

Priority Applications (No Type Date): JP 2001136553 A 20010507

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
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JP 2002334087 A 7 G06F-017/30

Abstract (Basic): JP 2002334087 A

NOVELTY - An **optimizer** alters an initial resolution of an image input device and the similarity between the registered and read document images is computed, such that the similarity exceeds a predetermined **value**. The document format is **determined** based on the computed similarity.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

- (1) Information processor;
- (2) Information processing method;
- (3) Storage medium storing information processing program; and
- (4) Information processing program.

USE - For processing information.

ADVANTAGE - Allows an automatic, high speed and efficient document format discrimination with high discrimination rate, by computing the similarity between the registered and read document images.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the information processing system. (Drawing includes non-English language text).

pp; 7 DwgNo 1/4

Title Terms: INFORMATION; PROCESS; SYSTEM; **DETERMINE**; DOCUMENT; FORMAT; BASED; SIMILAR; REGISTER; READ; DOCUMENT; IMAGE; AFTER; ALTER; INITIAL; RESOLUTION

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

International Patent Class (Additional): G06T-007/00

File Segment: EPI

32/5/21 (Item 21 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014754156 **Image available**

WPI Acc No: 2002-574860/200261

XRPX Acc No: N02-455742

Production line configuration determination used in FCM machine, involves estimating output value of foreign optimizer module associated with component placement machine and utilizing output value to determine configuration

Patent Assignee: KONINK PHILIPS ELECTRONICS NV (PHIG); PHILIPS ELECTRONICS NORTH AMERICA CORP (PHIG)

Inventor: ESHELMAN L; SCHAFER D J; ESHELMAN L J; SCHAFER J D

Number of Countries: 022 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20020083026	A1	20020627	US 2000745946	A	20001222	200261 B
WO 200252428	A2	20020704	WO 2001IB2425	A	20011210	200261
US 6594531	B2	20030715	US 2000745946	A	20001222	200348
EP 1350174	A2	20031008	EP 2001272138	A	20011210	200370
			WO 2001IB2425	A	20011210	

Priority Applications (No Type Date): US 2000745946 A 20001222

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 20020083026 A1 10 G06F-015/18

WO 200252428 A2 E G06F-017/00

Designated States (National): JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE TR
US 6594531 B2 G05B-013/02
EP 1350174 A2 E G06F-017/00 Based on patent WO 200252428
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE TR

Abstract (Basic): US 20020083026 A1

NOVELTY - An output **value** for foreign **optimizer** module
associated with component **placement** machine that is linked to
modular **optimizer** (102) is estimated. The estimated output **value**
output from the modular **optimizer** is utilized in order to **determine**
the configuration of the production line.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the
following:

- (1) Production line configuration **determination** apparatus;
- (2) Modular **optimizer** ; and
- (3) Article of manufacture comprising machine readable medium
storing production configuration line program.

USE - For component placement machines e.g. pick-and-place machines
used in assembly of surface mount devices (SMDs) and other components
onto printed circuit boards (PCBs), fast component mounter (FCM)
machine, advanced component mounter (ACM) machine.

ADVANTAGE - The actual **value** for corresponding estimated **value**
is **determined** to provide an improved result, and one or more
parameters of the estimator are altered, so as to reduce the error
associated with generation of subsequent estimated values.

DESCRIPTION OF DRAWING(S) - The figure shows the schematic view of
the modular **optimizer** .

Modular **optimizer** (102)

pp; 10.DwgNo 2/3

Title Terms: PRODUCE; LINE; CONFIGURATION; **DETERMINE** ; MACHINE; ESTIMATE;
OUTPUT; **VALUE** ; FOREIGN; OPTIMUM; MODULE; ASSOCIATE; COMPONENT; PLACE;
MACHINE; UTILISE; OUTPUT; **VALUE** ; **DETERMINE** ; CONFIGURATION

Derwent Class: T01; V04

International Patent Class (Main): G05B-013/02; **G06F-015/18** ; **G06F-017/00**

International Patent Class (Additional): **G06F-019/00** ; G06N-003/00;

H05K-003/30

File Segment: EPI

32/5/22 (Item 22 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014615023 **Image available**

WPI Acc No: 2002-435727/200246

XRPX Acc No: N02-342977

Selectable **funding system** for electronic transactions, e.g. to pay
bills or transfer money between accounts, in which all payment providers
and payees are manipulated seamlessly

Patent Assignee: FIRST USA BANK NA (FIRS-N); CATALINE G R (CATA-I); RIELLY
W S (RIEL-I); SHEEHAN M R (SHEE-I); WALLACE W S (WALL-I)

Inventor: CATALINE G R; RIELLY W S; SHEEHAN M R; WALLACE W S; GLEN C

Number of Countries: 098 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200237386	A1	20020510	WO 2001US42973	A	20011106	200246 B
US 20020116331	A1	20020822	US 2000245665	A	20001106	200258

US 2001985900 A 20011106
AU 200224482 A 20020515 AU 200224482 A 20011106 200258

Priority Applications (No Type Date): US 2000245665 P 20001106; US
2001985900 A 20011106

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200237386 A1 E 33 G06F-017/60

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

US 20020116331 A1 G06F-017/60 Provisional application US 2000245665

AU 200224482 A G06F-017/60 Based on patent WO 200237386

Abstract (Basic): WO 200237386 A1

NOVELTY - A mediation engine manages the payments made to **selected**
payees, by scheduling the payments and **selecting** sources for funds.
A rules-based **optimizer** automatically **selects** the **least - cost** or
otherwise most efficient or desirable transaction, given the customer's
available funds, types of funds and payment dates.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is **included** for a
method.

USE - For transferring funds to pay bills and to and from **selected**
accounts.

ADVANTAGE - All payment providers and payees are manipulated
seamlessly.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic diagram
of the system.

pp; 33 DwgNo 1/4

Title Terms: **SELECT** ; SYSTEM; ELECTRONIC; TRANSACTION; PAY; BILL; TRANSFER
; MONEY; ACCOUNT; PAY; MANIPULATE; SEAM

Derwent Class: T01; T05

International Patent Class (Main): **G06F-017/60**

File Segment: EPI

32/5/23 (Item 23 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014612812 **Image available**

WPI Acc No: 2002-433516/200246

XRPX Acc No: N02-341085

**Database management system includes query optimizer which maintains
counter for updates made to data in database and updates statistics
automatically, when counter exceeds threshold value**

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: ELLIS N R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6366901	B1	20020402	US 98212933	A	19981216	200246 B

Priority Applications (No Type Date): US 98212933 A 19981216

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

US 6366901 B1 18 G06F-017/03

Abstract (Basic): US 6366901 B1

NOVELTY - A query **optimizer** (102) selects an executable procedure from several procedures, using the statistic derived from data in a database. The query **optimizer** maintains a counter for updates made to the data and automatically updates statistics, when the counter exceeds a threshold value.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(a) Computer readable **media** storing database management program; and

(b) Maintenance method of statistics derived from data.

USE - Database management system e.g. relational database management system (RDBMS).

ADVANTAGE - Automatically updates database statistics **associated** with the **table** to reflect changes in data and removes **execution plans** generated from the updated statistics. Thus the data in database is maintained easily and more accurately.

DESCRIPTION OF DRAWING(S) - The figure shows a **graphical** depiction of **relational** database management system (RDBMS).

Query **optimizer** (102)
pp; 18 DwgNo 4/10

Title Terms: DATABASE; MANAGEMENT; SYSTEM; QUERY; OPTIMUM; MAINTAIN;
COUNTER; UPDATE; MADE; DATA; DATABASE; UPDATE; STATISTICAL; AUTOMATIC;
COUNTER; THRESHOLD; VALUE

Derwent Class: T01

International Patent Class (Main): G06F-017/03

File Segment: EPI

32/5/24 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014603866 **Image available**

WPI Acc No: 2002-424570/200245

Related WPI Acc No: 2003-455840

XRPX Acc No: N02-333763

Statistics identification method for use in database system, involves identifying subset of statistics, which is equivalent to initial set of statistics with respect to each query

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: CHAUDHURI S; NARASAYYA V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6363371	B1	20020326	US 99342988	A	19990629	200245 B

Priority Applications (No Type Date): US 99342988 A 19990629

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6363371	B1	20	G06F-017/30	

Abstract (Basic): US 6363371 B1

NOVELTY - The identified subset of statistics is equivalent to the identified initial set of statistics, if an **execution plan** for each query using the subset is same as that of the **execution plan**, and/or if a cost estimate to execute each query against a database (210) using the subset is within a preset amount of the cost estimate

to execute that query using the initial set.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Recorded medium storing statistics identification program;
- (b) Database system

USE - For identifying statistics for use in executing queries for database system (claimed).

ADVANTAGE - Reduces the overhead associated with statistics, by identifying the subset of statistics which provides a query **optimizer** to choose the query **execution plan** with minimized loss in accuracy.

DESCRIPTION OF DRAWING(S) - The figure shows an exemplary view of database system.

Database (210)

pp; 20 DwgNo 2/10

Title Terms: STATISTICAL; IDENTIFY; METHOD; DATABASE; SYSTEM; IDENTIFY; SUBSET; STATISTICAL; EQUIVALENT; INITIAL; SET; STATISTICAL; RESPECT; QUERY

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/25 (Item 25 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014521775 **Image available**

WPI Acc No: 2002-342478/200238

XRPX Acc No: N02-269341

Cost based materialized view selection method for database query optimization, involves extracting operator tree for each entry and view, and matching trees for extending table of alternatives with view

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: GALINDO-LEGARIA C; JOSHI M M; GALINDO-LEGARIA C A

Number of Countries: 028 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1193618	A2	20020403	EP 2001123065	A	20010926	200238 B
JP 2002163290	A	20020607	JP 2001296553	A	20010927	200241
US 6510422	B1	20030121	US 2000671458	A	20000927	200309

Priority Applications (No Type Date): US 2000671458 A 20000927

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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EP 1193618	A2	E	13	G06F-017/30	
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Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

JP 2002163290	A	11	G06F-017/30
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US 6510422	B1	G06F-017/30
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Abstract (Basic): EP 1193618 A2

NOVELTY - The table of alternatives having multiple entries for query execution, is obtained and relevant materialized views for the query is selected. An operator tree for each entry and view is extracted and matched with other trees. If a match is found, the table with the view, is extended.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) Machine readable medium storing program for selecting materialized views;

(b) Query **optimizer** for selecting materialized views
USE - For cost based materialized view selection for database query optimization in computer.

ADVANTAGE - Allows generating a single matching structure for each entry and reusing it for each candidate view. Materialized views and the alternatives are selected for use in a query **execution plan** based on cost. Number of operator trees is reduced by generating collapsed operator trees to form query graphs.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of query **optimizer**.

pp; 13 DwgNo 2/8

Title Terms: COST; BASED; VIEW; SELECT; METHOD; DATABASE; QUERY; OPTIMUM; EXTRACT; OPERATE; TREE; ENTER; VIEW; MATCH; TREE; EXTEND; TABLE; ALTERNATIVE; VIEW

Derwent Class: T01

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-012/00

File Segment: EPI

32/5/26 (Item 26 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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014408920

WPI Acc No: 2002-229623/200229

XRPX Acc No: N02-176597

Temporal interval storage method for databases using an arbitrary index structure to support temporal range queries

Patent Assignee: KRIEGEL H (KRIE-I); POETKE M (POET-I); SEIDL T (SEID-I)

Inventor: KRIEGEL H; POETKE M; SEIDL T

Number of Countries: 025 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 1160682	A1	20011205	EP 2000112031	A	20000602	200229 B

Priority Applications (No Type Date): EP 2000112031 A 20000602

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1160682	A1	E	35	G06F-017/30	

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): EP 1160682 A1

NOVELTY - The Relational interval (RI) tree manages intervals by two relational indexes. For storing n intervals, $O(n/b)$ disk pages are necessary, and inserting or deleting an interval requires $O(\log_{bn})$ I/O operations where b denotes the disk block size following (MTT 00). For reporting the r intervals that intersect a given query interval, $O(h \cdot \log_{bn} + r/b)$ I/Os are required. The height h of the virtual backbone reflects the current expansion and granularity of the data space and is independent of the number n of intervals.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

(1) a data structure for storing time interval data.

(2) a method of access a data structure

(3) a computer program for storing and accessing a data structure.

USE - For providing a time interval class to relational and object databases

ADVANTAGE - This storage method combines optimal interval structure with efficient disk-oriented indexing techniques allowing the structure to reside in main memory, avoiding the need for a custom secondary

storage unit. Built-in indexes are used on an as-they-are basis without any augmentation of the internal data structure. Thus, no interface below the SQL level is required, and any arbitrary off-the-shelf RDBMS supports the technique. Moreover, intrusive extensions which are typical for previous interval access methods are even not supported by modern **ORDBMS**. A proper integration with existing RDBMS is an essential aspect for most industrial or commercial applications. By using built-in relational index structures, their strong robustness, performance and integration into transaction management (including recovery mechanisms and concurrently control) is for free. Thus, a lot of implementation efforts and code maintenance is avoided by a relational storage structure in contrast to typical external memory solutions. The efficiency of the RI-tree is based on the logarithmic I/O complexity of the underlying relational system for one-dimensional range queries on point data. Almost all RDBMS qualify for this quite weak requirement since they typically have implemented the popular B+-tree. By virtualizing the backbone structure of the original main-memory method and storing the intervals in relational indexes, a high efficiency for the RI-tree is achieved. In addition to its efficient support by any off-the-shelf RDBMS, the Relational Interval Tree perfectly fits to the object-relational facilities of modern DBMS including the Oracle8i Server (Ora 99a), the Informix Universal Server (Inf 98) or the IBM DB2 **Universal Database** (IBM 99). These systems support integrating the RI-Tree with the declarative SQL level as well as with the relational query **optimizer**.

pp; 35 DwgNo 0/18

Title Terms: TEMPORAL; INTERVAL; STORAGE; METHOD; ARBITRARY; INDEX; STRUCTURE; SUPPORT; TEMPORAL; RANGE; QUERY

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/27 (Item 27 from file: 350)

DIALOG(R)File 350:Derwent WPIX ,

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014357950 **Image available**

WPI Acc No: 2002-178651/200223

XRPX Acc No: N02-135821

Executing a correlated database query for selecting data records, involves computing subquery value by combining the computed result with the retrieved cached result

Patent Assignee: SYBASE INC (SYBA-N)

Inventor: BELLO R G; KIRK S A; MACNICOL R D; RAO J; YANG K T

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6341281	B1	20020122	US 9881782	P	19980414	200223 B
			US 99285408	A	19990402	

Priority Applications (No Type Date): US 9881782 P 19980414; US 99285408 A 19990402

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6341281	B1	27	G06F-017/30	Provisional application US 9881782

Abstract (Basic): US 6341281 B1

NOVELTY - Correlated and uncorrelated portions of a received database query is **determined**. A cache is then created in the memory

to store the result computed for the uncorrelated portion after the subquery has been executed for the first time. The query is then executed by evaluating the expression of the subquery by computing a result for the correlated portion.

DETAILED DESCRIPTION - The cached result for the uncorrelated portion of the subquery is then retrieved. A subquery **value** is then computed by combining the computed result with the retrieved cached result.

INDEPENDENT CLAIMS are also included for the following:

- (a) a query execution system;
- (b) a client-server database system

USE - For computer system.

ADVANTAGE - Prevents unnecessary execution of the invariant portion of the subquery, especially if the number of iterations is large.

Teaches an existing join **optimizer** to understand the invariant feature and thus allow it to be able to generate better join plans in the new context. Provides significantly better performance than the traditional nested iteration method.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram illustrating the use of a subquery.

pp; 27 DwgNo 3B/14

Title Terms: EXECUTE; CORRELATE; DATABASE; QUERY; SELECT; DATA; RECORD;

COMPUTATION; **VALUE** ; COMBINATION; COMPUTATION; RESULT; RETRIEVAL; RESULT

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

32/5/28 (Item 28 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014111890

WPI Acc No: 2001-596102/200167

XRPX Acc No: N01-444352

Method of optimizing the processing of enquiries to a database by detecting patterns in SQL enquiry statements which indicate search limits and converting the patterns to keys to limit database searches

Patent Assignee: BULL HN INFORMATION SYSTEMS INC (HONE)

Inventor: GRAY J E

Number of Countries: 021 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200146864	A1	20010628	WO 2000US34992	A	20001222	200167 B
US 6353821	B1	20020305	US 99472362	A	19991223	200224
EP 1242920	A1	20020925	EP 2000988283	A	20001222	200271
			WO 2000US34992	A	20001222	

Priority Applications (No Type Date): US 99472362 A 19991223

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200146864 A1 E 40 G06F-017/30

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

US 6353821 B1 G06F-017/30

EP 1242920 A1 E G06F-017/30 Based on patent WO 200146864

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Abstract (Basic): WO 200146864 A1

NOVELTY - WHERE clauses in a search query are converted to

Conjunctive Normal Form (CNF) lists. Conditions used to access a current table are extracted and a check is made to **determine** whether more table indexes are to be examined. Key conditions are gathered into an OR-group versus Key Column matrix and checks are made for multi-column index range condition patterns. The best method found is then saved. When all indexes have been examined the best access method found is located and a composite key **value** is built and a multi-column index accessed using a range condition compare operator. DeMorgan's theorem may be used.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for

- (a) database management software system
- (b) an **optimizer** for a database management software system
- (c) and a computer readable medium carrying instructions for a software database management **optimizer**.

USE - Database accessing.

ADVANTAGE - Effectively finds the most efficient access plan.

pp; 40 DwgNo 0/7

Title Terms: METHOD; OPTIMUM; PROCESS; ENQUIRY; DATABASE; **DETECT** ; PATTERN ; SQL; ENQUIRY; STATEMENT; INDICATE; SEARCH; LIMIT; CONVERT; PATTERN; KEY ; LIMIT; DATABASE; SEARCH

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

32/5/29 (Item 29 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014073255 **Image available**

WPI Acc No: 2001-557468/200162

XRPX Acc No: N01-414310

Optimizing method for assignment of locomotives in a railroad network by minimizing cost of moving locomotives over predetermined time period

Patent Assignee: GE-HARRIS RAILWAY ELECTRONICS CO (GENE); GE

TRANSPORTATION SYSTEMS GLOBAL SIGNALI (GETR-N)

Inventor: BELCEA J M

Number of Countries: 094 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200149548	A1	20010712	WO 2001US119	A	20010102	200162 B
AU 200124728	A	20010716	AU 200124728	A	20010102	200169
US 6587738	B1	20030701	US 99173696	P	19991230	200345
			US 2000520598	A	20000308	
DE 10194721	T	20030904	DE 1094721	A	20010102	200366
			WO 2001US119	A	20010102	
MX 2002006574	A1	20030301	WO 2001US119	A	20010102	200413
			MX 20026574	A	20020628	

Priority Applications (No Type Date): US 2000520598 A 20000308; US 99173696 P 19991230

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200149548 A1 E 36 B61L-02/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200124728 A B61L-027/00 Based on patent WO 200149548
US 6587738 B1 G06F-017/60 Provisional application US 99173696
DE 10194721 T B61L-027/00 Based on patent WO 200149548
MX 2002006574 A1 B61L-027/00 Based on patent WO 200149548

Abstract (Basic): WO 200149548 A1

NOVELTY - The method involves **determining** the number of locomotives of signaling class (s) and power class (c) that are planned to exit location (i) in the direction of location (j) as extra power during a predetermined time period.

DETAILED DESCRIPTION - The product of the result of the previous step is **determined** for each power class, also the distance between locations (i) and (j) and the **cost** of moving locomotives as extra power as a function of each power class (c). This result is then summed over all power classes. The next result is summed over all signaling classes, then summed over all adjacent locations, then summed over all locations, then summed over the predetermined time period. The final result is then minimized.

INDEPENDENT CLAIMS are included for an apparatus for optimizing the assignment of locomotives in a railroad network and for a computer program.

USE - For **determining** optimal assignment of locomotives on a railroad network.

ADVANTAGE - Assigns locomotives in network to various terminals at minimum **cost** and at appropriate time.

DESCRIPTION OF DRAWING(S) - The figure shows a locomotive planner including the schedule **optimizer**.

pp; 36 DwgNo 1/3

Title Terms: OPTIMUM; METHOD; ASSIGN; LOCOMOTIVE; RAILWAY; NETWORK;

MINIMISE; **COST**; MOVE; LOCOMOTIVE; PREDETERMINED; TIME; PERIOD

Derwent Class: Q21; T01; X23

International Patent Class (Main): B61L-027/00; **G06F-017/60**

International Patent Class (Additional): G08G-001/123

File Segment: EPI; EngPI

32/5/30 (Item 30 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014036036 **Image available**

WPI Acc No: 2001-520249/200157

XRPX Acc No: N01-385232

Computer implemented index set identification method for databases, involves calculating benefit of selected indexes and performing benefit based pruning to eliminate low benefit indexes

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: ADYA A; AGRAWAL S; CHAUDHURI S; NARASAYYA V R

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6266658	B1	20010724	US 2000553070	A	20000420	200157 B

Priority Applications (No Type Date): US 2000553070 A 20000420

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6266658	B1	16	G06F-017/30	

Abstract (Basic): US 6266658 B1

NOVELTY - Potential indexes are identified based on queries, in a

given workload. **Cost** and usage information are obtained with respect to potential indexes for computing a weight. **Cost** based pruning is performed to eliminate low usage indexes, and indexes satisfying specified constraints are selected. **Cost** and index usage of selected indexes are obtained for calculating benefit and benefit based pruning is performed to eliminate indexes with low benefit and final recommendation of set of indexes is provided.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) Computer readable medium for storing instruction to perform index set identifying method;

(b) Index set identifying system

USE - For searching databases for specific data.

ADVANTAGE - Quickly **determines** a set of beneficial indexes without the need for repeatedly calling an **optimizer**. Benefit based pruning ensures that a recommended configuration is better than the existing configuration and eliminate indexes with low benefit for workload.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of architecture of index tuner.

pp; 16 DwgNo 2/7

Title Terms: COMPUTER; IMPLEMENT; INDEX; SET; IDENTIFY; METHOD; CALCULATE; BENEFICIAL; SELECT; INDEX; PERFORMANCE; BENEFICIAL; BASED; PRUNE; ELIMINATE; LOW; BENEFICIAL; INDEX

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/31 (Item 31 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013881832 **Image available**

WPI Acc No: 2001-366044/200138

XRPX Acc No: N01-266956

Expression reduction in top-down rule-based database query optimizers , involves applying specific rule to specific logical expression, when it is not identified as eliminate rule, for optimizing the expression

Patent Assignee: COMPAQ COMPUTER CORP (COPQ)

Inventor: AL-OMARI A K; FRIDRICH M J; LESLIE H A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6205441	B1	20010320	US 99283384	A	19990331	200138 B

Priority Applications (No Type Date): US 99283384 A 19990331

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6205441	B1	46	G06F-017/30	

Abstract (Basic): US 6205441 B1

NOVELTY - A specific pruning heuristics is performed, based on data flow, when specific rule of applicable rules satisfies specific pruning heuristic. The specific rule is applied to specific logical expression, when it is not identified as eliminate rule, to identify promising rules matching with specific logical expression, among identified applicable rules, thereby optimizing the expression.

DETAILED DESCRIPTION - Initially, the query is expressed as a group of expressions and specific logical expression in one of group of

expression is identified. Then, the specific logical expression is optimized, by identifying a set of applicable rules, and promising rules among applicable rules, sequentially. INDEPENDENT CLAIMS are also included for the following:

(a) Expression reduction system for top-down rule-based database query **optimizer** ;

(b) Expression reduction program

USE - For reducing number of expressions to which rules are applied, in top-down rule-based database query **optimizers** e.g. for optimizing complex structured query language (SQL) database queries in distributed computer system or in various configurations, makes or models of tightly-coupled processors or in various configuration of loosely-coupled microprocessor systems. And also for optimizing **queries** on object- **related** database management systems, object databases and data contained in spreadsheets.

ADVANTAGE - Optimizes an arbitrarily complex query within a time that is at most linearly proportional to the complexity of the query. Enables optimization of complex queries regardless of how efficiently the query **optimizer** is implemented. Since the **cost** associated with each expression can be **determined** as a function of various criteria, the **cost** can represent a more accurate estimate of the computational expenses associated with executing expressions.

DESCRIPTION OF DRAWING(S) - The figure shows the partial flow chart of optimize-expression task.

pp; 46 DwgNo 7A/20

Title Terms: EXPRESS; REDUCE; TOP; DOWN; RULE; BASED; DATABASE; QUERY; APPLY; SPECIFIC; RULE; SPECIFIC; LOGIC; EXPRESS; IDENTIFY; ELIMINATE; RULE; EXPRESS

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/32 (Item 32 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013789145 **Image available**

WPI Acc No: 2001-273356/200128

XRAM Acc No: C01-082833

XRPX Acc No: N01-195272

Optimizing specific building blocks which make up a target macromolecule involves determining several conformers of each building block, which are quantified and ranked using scoring function and reference structure

Patent Assignee: EURO MOLECULAR BIOLOGY LAB (ENMO-N); LACROIX E (LACR-I); SERRANO L (SERR-I)

Inventor: LACROIX E; SERRANO L

Number of Countries: 094 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200116810	A2	20010308	WO 2000EP8504	A	20000831	200128 B
AU 200111320	A	20010326	AU 200111320	A	20000831	200137
US 20020072864	A1	20020613	US 99387741	A	19990831	200243

Priority Applications (No Type Date): US 99387741 A 19990831

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 200116810	A2	E 138	G06F-017/50	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BE BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP

32/5/38 (Item 38 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013260034 **Image available**
WPI Acc No: 2000-431917/200038
XRPX Acc No: N00-322339

Method for determining optimal materialization for query optimize in database management system by determining if any of temporary materialization are being used in any of the query execution plans
Patent Assignee: IBM CANADA LTD (IBMC); INT BUSINESS MACHINES CORP (IBMC)

Inventor: LOHMAN G M; VALENTIN G
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CA 2249096	A1	20000330	CA 2249096	A	19980930	200038	B
CA 2249096	C	20011204	CA 2249096	A	19980930	200203	
US 6356889	B1	20020312	US 99409323	A	19990930	200221	

Priority Applications (No Type Date): CA 2249096 A 19980930

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2249096	A1	E	32	G06F-017/30	
CA 2249096	C	E		G06F-017/30	
US 6356889	B1			G06F-017/30	

Abstract (Basic): CA 2249096 A1

NOVELTY - A query optimizer (15) optimizes each of query execution plans for determining if any of temporary materialization (100) are being used in any of the query execution plans . If yes, any of the query execution plans may be recommended to the user together with the query execution plans .

USE - In relational database management system

ADVANTAGE - Allows determining optimal database materialization using a query optimizer .

DESCRIPTION OF DRAWING(S) - The drawing shows in diagrammatic form a database management system incorporating a method or process according to the present invention.

query optimizer (15)

temporary materialization process (100)

pp; 32 DwgNo 1/3

Title Terms: METHOD; DETERMINE; OPTIMUM; QUERY; DATABASE; MANAGEMENT; SYSTEM; DETERMINE; TEMPORARY; QUERY; EXECUTE; PLAN

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/39 (Item 39 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013110064 **Image available**
WPI Acc No: 2000-281935/200024
XRPX Acc No: N00-212138

Relational database management system for statistics management
Patent Assignee: ORACLE CORP (ORAC-N)

Inventor: ZIAUDDIN M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6029163	A	20000222	US 97796779	A	19970210	200024 B
			US 98164400	A	19980930	

Priority Applications (No Type Date): US 97796779 A 19970210; US 98164400 A 19980930

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6029163	A	20	G06F-017/30	Cont of application US 97796779

Abstract (Basic): US 6029163 A

NOVELTY - The relational database management system has processor coupled to a bus and a computer readable memory unit to the bus. The system uses a method for **determining** a workload statistic.

DETAILED DESCRIPTION - The method involves accessing a portion of the memory unit to **determine** an identified first column of data within a data table. Then **determining** the number of rows containing null data and **determining** a first workload statistic **associated** with the **column**. The first workload statistic is then stored in the memory unit for use by an **optimizer** of the relational database management system.

USE - For **cost** estimation analysis for workload queries.

ADVANTAGE - Provides for accurate **cost** estimation analysis for workload queries involving more than **one** data column.

DESCRIPTION OF DRAWING(S) - The figure is a flow diagram of steps performed by the statistic generation program.

pp; 20 DwgNo 5/8

Title Terms: RELATED; DATABASE; MANAGEMENT; SYSTEM; STATISTICAL; MANAGEMENT
Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/40 (Item 40 from file: 350)

DIALOG(R)File 350,Derwent WPIX

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013051518 **Image available**

WPI Acc No: 2000-223372/200019

Related WPI Acc No: 2000-375381

XRPX Acc No: N00-167404

Query optimization method for database management system

Patent Assignee: LUCENT TECHNOLOGIES INC (LUCE)

Inventor: SRIVASTAVA D; STUCKEY P J; SUDARSHAN S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6032144	A	20000229	US 9618391	A	19960529	200019 B
			US 97862459	A	19970523	

Priority Applications (No Type Date): US 9618391 P 19960529; US 97862459 A 19970523

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 6032144	A	16	G06F-017/30	Provisional application US 9618391

Abstract (Basic): US 6032144 A

databases;

(b) a method for choosing an optimized query plan.

USE - To provide an optimized query plan for accessing heterogeneous databases.

ADVANTAGE - The query optimization in a heterogeneous database system enables transparent access to data stored in the databases.

DESCRIPTION OF DRAWING(S) - The figure is a high level block diagram of a heterogeneous database system which incorporates a system manager.

Processor (20)

Memory (24)

pp; 9 DwgNo 1/3

Title Terms: HETEROGENEOUS; DATABASE; SYSTEM; MANAGE; QUERY; PLAN

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/43 (Item 43 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012623052 **Image available**

WPI Acc No: 1999-429156/199936

Related WPI Acc No: 1999-394061; 1999-394062; 1999-561262

XRPX Acc No: N99-319422

Index selection method for computer database systems

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: CHAUDHURI S; NARASAYYA V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5926813	A	19990720	US 97912036	A	19970815	199936 B
			US 97980829	A	19971201	

Priority Applications (No Type Date): US 97980829 A 19971201; US 97912036 A 19970815

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5926813	A		25	G06F-017/30	CIP of application US 97912036

Abstract (Basic): US 5926813 A

NOVELTY - When a workload query is to be executed using a database, a set of several atomic index configurations are generated for the query. The atomic index configurations for the query are **determined** with indexes so that the indexes have a predetermined degree of interaction.

DETAILED DESCRIPTION - A first **cost** is **determined** for a predetermined atomic index configuration using a query **optimizer** of a database server. A second **cost** is **determined** for the predetermined atomic index configuration based on estimation **costs** of remaining atomic index configurations. When the first **cost** is at least twenty percent less than the second **cost**, then, the predetermined atomic index configuration is **determined** to be comprising of indices with predetermined degree of interaction.

USE - For computer database systems.

ADVANTAGE - The time and memory required to select an index configuration is reduced, thereby reducing the **cost** in accessing a database in accordance with a workload of queries.

DESCRIPTION OF DRAWING(S) - The figure shows a flow diagram to

determine cost of query for index configuration.

pp; 25 DwgNo 1/13

Title Terms: INDEX; SELECT; METHOD; COMPUTER; DATABASE; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/44 (Item 44 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012587955 **Image available**

WPI Acc No: 1999-394062/199933

Related WPI Acc No: 1999-394061; 1999-429156; 1999-561262

XRPX Acc No: N99-294485

Index selection method for database system

Patent Assignee: MICROSOFT CORP (MICR-N)

Inventor: CHAUDHURI S; NARASAYYA V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5913207	A	19990615	US 97912036	A	19970815	199933 B
			US 97982046	A	19971201	

Priority Applications (No Type Date): US 97982046 A 19971201; US 97912036 A 19970815

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5913207	A	29	G06F-017/30	CIP of application US 97912036

Abstract (Basic): US 5913207 A

NOVELTY - A seed index configuration comprising a predefined number m' of indexes is **determined**, based on the workload of queries. One or more indexes are successively added to the seed index configuration to produce a selected index configuration based on the workload of queries.

DETAILED DESCRIPTION - Estimated **cost** required to execute queries of the workload against the database for index configurations, is **determined**. A query **optimizer** of the database server is invoked to **determine** estimated **cost**. A seed index configuration having a minimum total estimated **cost** for the workload is selected.

USE - For database system.

ADVANTAGE - The index configurations may be selected such that estimated **cost** of workload for every partial index configuration is within predetermined factor.

DESCRIPTION OF DRAWING(S) - The figure illustrates the index selection tool and server of the database system.

pp; 29 DwgNo 3/13

Title Terms: INDEX; SELECT; METHOD; DATABASE; SYSTEM

Derwent Class: T01

International Patent Class (Main): G06F-017/30

File Segment: EPI

32/5/45 (Item 45 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012495838 **Image available**

WPI Acc No: 1999-301946/199925
Related WPI Acc No: 2000-281935
XRPX Acc No: N99-226228

Multi-column workload statistic determination method for relational database management system

Patent Assignee: ORACLE CORP (ORAC-N)

Inventor: ZIAUDDIN M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5899986	A	19990504	US 97796779	A	19970210	199925 B

Priority Applications (No Type Date): US 97796779 A 19970210

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5899986	A	19	G06F-017/30	

Abstract (Basic): US 5899986 A

NOVELTY - Identifiers of two different data columns are received, in which number of distinct row pairs are **determined**. The number of non-null row pairs of the columns are **detected**. A column duplicity factor is **detected** by mutually dividing number of non-null and distinct row pairs. After column analysis, multicolumn workload statistics is stored in computer readable memory of RDBMS.

DETAILED DESCRIPTION - The workload statistic is used by an **optimizer** of RDBMS. The two columns are stored in a common data table. INDEPENDENT CLAIMS are also included for the following:

- (a) a computer readable memory unit;
- (b) a computer system

USE - For relational database management system.

ADVANTAGE - Enables accurate **cost** estimation analysis for workload queries involving more than one data column and rows with null data values. Identifies columns or column groups for statistics collection without need for manual user identification of columns.

DESCRIPTION OF DRAWING(S) - The figure shows flow chart depicting method for generation of non-null workload statistics.

pp; 19 DwgNo 6/8

Title Terms: MULTI; COLUMN; STATISTICAL; **DETERMINE** ; METHOD; RELATED; DATABASE; MANAGEMENT; SYSTEM

Derwent Class: T01

International Patent Class (Main): **G06F-017/30**

File Segment: EPI

32/5/46 (Item 46 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012387105

WPI Acc No: 1999-193212/199917

XRPX Acc No: N99-141552

Relational database system for optimization of relational database queries

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: ALDRED B K

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2330221	A	19990414	GB 9721327	A	19971009	199917 B
US 6175836	B1	20010116	US 9873804	A	19980506	200106

GB 2330221 B 20020703 GB 9721327 A 19971009 200251

Priority Applications (No Type Date): GB 9721327 A 19971009

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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GB 2330221	A		22	G06F-017/30	
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US 6175836	B1			G06F-017/00	
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GB 2330221	B			G06F-017/30	
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Abstract (Basic): GB 2330221 A

NOVELTY - The system includes an expression **optimizer** which interprets a database query comprising an expression including **one** or more operations, each operation having a respective operator and **one** or more associated operands. The **optimizer** tracks a number of objects and attributes associated with the operation, and reformulates the expression accordingly.

DETAILED DESCRIPTION - The system also stores a number of base tables, comprising a respective set of attributes associated with a subset of objects in the system. For each table, a respective complementary table is generated, comprising a set of attributes excluding the attributes of the **associated base table**. An INDEPENDENT CLAIM is included for a computer program product.

USE - Optimization of relational database queries.

ADVANTAGE - Enables optimization of relational expressions by transforming a supplied expression into **one** which is faster (less resource consuming) to evaluate.

pp; 22 DwgNo 0/3

Title Terms: RELATED; DATABASE; SYSTEM; OPTIMUM; RELATED; DATABASE; QUERY

Derwent Class: T01

International Patent Class (Main): G06F-017/00 ; G06F-017/30

File Segment: EPI

32/5/47 (Item 47 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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012360852 **Image available**

WPI Acc No: 1999-166959/199914

XRPX Acc No: N99-121671

Automatic query execution plan optimizing method in relational database management system

Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)

Inventor: COCHRANE R J; LAPIS G; PIRAHESH M H; SIDLE R S; SIMMEN D E;

TRUONG T C; URATA M S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5873075	A	19990216	US 97884832	A	19970630	199914 B

Priority Applications (No Type Date): US 97884832 A 19970630

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 5873075	A		44	G06F-017/30	
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Abstract (Basic): US 5873075 A

NOVELTY - Query graph (G) is reformed by separating two processes on respective ones of node pairs, to sequence execution for producing a query graph GMTI that enforces database integrity during table mutation. Query **execution plans** are generated for executing produced graph after evaluating execution **cost** of plan and selecting

optimal query **execution plan** ..

DETAILED DESCRIPTION - A query graph (G) for each table Teach is reformed by either restricting a data flow path between the nodes of one or more common referencing node pairs or inserting a sub-query node between the common referencing node pairs ..A poke sub-query passes data from a first node to a second node of one or more common referencing node pairs to ensure that the first node executes before the second node and produces exactly one record for consumption by the second node. INDEPENDENT CLAIMS are included for the following:

- (a) a query **optimizer** system;
- (b) a database processing system;
- (c) a computer program product for use with relational database processing system.

USE - In producer driver, customer driven, shared nothing, parallel execution RDBMS for restricting **execution plans** during query merger and optimization.

ADVANTAGE - Solves mutating table database integrity problem in SN-RDBMS by **detecting** potential mutating table integrity violations early in query graph model process before QGM rewrite and query **execution plan** optimization. Eliminates existing prohibitions on user query types in SN-RDBMS. Avoids query failure at runtime in a SN-RDBMS arising from selection of an optimal query plan containing mutating table integrity violations. Integrity is enforced by controlling order of relational operation without prohibiting any particular relational operation.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of flowchart showing mutating table violation prevention procedure involved in automatic query **execution plan** optimizing method.

Query graph (G)
pp; 44 DwgNo 5A/15

Title Terms: AUTOMATIC; QUERY; EXECUTE; PLAN; METHOD; RELATED; DATABASE; MANAGEMENT; SYSTEM
Derwent Class: T01
International Patent Class (Main): G06F-017/30
File Segment: EPI

32/5/48 (Item 48 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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012151288 **Image available**
WPI Acc No: 1998-568200/199848
Related WPI Acc No: 2000-021898
XRPX Acc No: N98-442088

Query processing method in database system - involves determining execution paths which are executed by obtaining data specified in query from sorted and non-sorted source respectively and executing respective sort plus operations

Patent Assignee: ORACLE CORP (ORAC-N)
Inventor: COHEN J I; DEPLEGGE M; JAKOBSSON H; OZBUTUN C
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5822748	A	19981013	US 97808097	A	19970228	199848 B

Priority Applications (No Type Date): US 97808097 A 19970228

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
US 5822748	A	13	G06F-017/30	

Abstract (Basic): US 5822748 A

The method involves **determining** an execution path which is executed by obtaining data specified in the query from stored source and executing version of the sort plus operation that does not perform sorting. Another execution path which is executed by obtaining data specified in the query from an unsorted source and executing another version of the sort plus operation that does not perform sorting, is **determined**. The sort plus operation is a 'group by' operation or 'distinct' operation.

The version of the sort plus operation is executed by sorting data based on a key specified in the query and grouping the data with adjacent data if the adjacent data has the same key **value** for key specified in the query. Execution **cost** for respective execution paths are **determined** by a **cost** based **optimizer** (212) separately. The suitable execution path is selected based on the comparison of the execution **costs** of the execution paths.

ADVANTAGE - Makes use of **cost** based **optimizer** to **determine** execution **cost** of execution path for processing query without use of sorting by accessing data from sorted source. Improves efficiency of 'group by' and 'distinct' operation significantly, if key values are available from sorted source.

Dwg. 6/6

Title Terms: QUERY; PROCESS; METHOD; DATABASE; SYSTEM; **DETERMINE** ; EXECUTE ; PATH; EXECUTE; OBTAIN; DATA; SPECIFIED; QUERY; SORT; NON; SORT; SOURCE; RESPECTIVE; EXECUTE; RESPECTIVE; SORT; PLUS; OPERATE
Derwent Class: T01
International Patent Class (Main): **G06F-017/30**
File Segment: EPI

32/5/49 (Item 49 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008830412 **Image available**

WPI Acc No: 1991-334428/199146

XRPX Acc No: N91-256277

Workload sharing in distributed database - where database request may be off-loaded to another site along with related data if this is not duplicated

Patent Assignee: TOSHIBA KK (TOKE)

Inventor: KATO N; MORIMOTO Y; MURANAGA M; SEKIGUCHI K

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 456491	A	19911113	EP 91304177	A	19910509	199146 B
EP 456491	A3	19920812	EP 91304177	A	19910509	199336
US 5379424	A	19950103	US 91698119	A	19910510	199507
			US 9360506	A	19930512	
EP 456491	B1	19960117	EP 91304177	A	19910509	199608
DE 69116420	E	19960229	DE 616420	A	19910509	199614
			EP 91304177	A	19910509	

Priority Applications (No Type Date): JP 90118553 A 19900510

Cited Patents: NoSR.Pub; 1.Jnl.Ref; GB 1083375; US 4769772

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

EP 456491 A

Designated States (Regional): DE FR GB

Set	Items	Description
S1	216	ORDBMS OR OBJECT()RELATIONAL()DBMS OR OBJECT()RELATIONAL()-(DATABASE OR DATE()BASE)()MANAGEMENT()SYSTEM OR (UNIVERSAL OR HYBRID)() (DATABASE? OR DATA()BASE?)
S2	262	OPTIMIZER? OR DEFRAGGER? OR DEFRAGMENTER?
S3	15001	DETERMIN? OR DECID? OR ASCERTAIN? OR RESOLV? OR DETECT? OR RECOGNI? OR VERIFY? OR AUTHENTICAT? OR VALIDAT?
S4	24017	COST? ? OR COSTING OR PRICE? ? OR PRICING OR VALUE OR CHARG? OR AMOUNT
S5	41024	JOIN? OR LINK? OR CONNECT? OR COMBINE? OR ASSOCIAT? OR RELAT?
S6	194	S5 (2N) (QUERY OR QUERIES OR INQUIR? OR REQUISITION? OR REQUEST? OR PETITION?)
S7	47686	SELECT? OR CHOOSE OR CULL OR ELECT OR CHOICE OR INCLUDE? OR PICK???
S8	257	(LOWEST OR LEAST OR SMALLEST OR LOWERMOST OR NETHERMOST OR BOTTOM) (2N) S4
S9	764	S5 (2N) (PATH? OR LOCAT? OR ADDRESS? OR PLACE? OR POSITION? OR LOCAL? OR VECTOR? OR COORDINATES)
S10	609	S5 (2N) (TUPLE OR TABLE? OR ARRAY? OR (MATHEMATICAL OR DATA)-()ELEMENT? OR MATRIX? OR MATRICES OR COLUMN? OR ROW? OR GRAPH? OR FAT OR MFAT)
S11	24192	CARDINALITY OR CARDINALITIES OR ONE(1N) (ONE OR MANY) OR CARDINAL()NUMBER? OR KNAPSACK()VECTOR? OR DISTINCT()ELEMENT?
S12	76	(COMPLEX OR INTERCONNECT? OR INTERWOVEN) (2N) (ATTRIBUTE? OR DATA() (TYPE? OR VALUE?) OR PARAMETER? OR SCHEMA OR LIMIT? OR BOUND? OR DESCRIPT? OR TYPE()INFORMATION)
S13	14290	(TV OR TELEVISION OR RADIO) () (SHOW? OR PROGRAM? OR BROADCAST?) OR MEDIA()ASSET? OR VIDEO? OR AUDIO? OR MULTIMEDIA OR MEDIA
S14	6	EXECUTION()PLAN?
S15	4	S1 AND S2
S16	0	S2 AND S3 AND S4 AND S6
S17	40	S2 AND S3
S18	10	S17 AND S4
S19	0	S17 AND S6
S20	0	S18 AND S6
S21	1	S2 AND S7 AND S8
S22	1	S2 AND S9
S23	5	S2 AND S10
S24	1	S6 AND S12
S25	136	S10 AND S11
S26	2	S2 AND S25
S27	21	S2 AND S13
S28	0	S1 AND S14
S29	45	S14 OR S15 OR S18 OR S21 OR S22 OR S23 OR S24 OR S26 OR S27
S30	40	S29 NOT PY>2001
S31	40	S30 NOT PD>20011026

IBM, Oracle, Microsoft, Sun Microsystems, Sybase, EMC, NCR, SAS Institute, Rational Software, Computer Associates International, Business Objects, and Informix Software are database vendors profiled. Among applications for their products are data warehouses, data marts, online analytical processing (OLAP), and decision support systems. IBM is the primary provider of databases, with DB2 **Universal Database** 5, which supports online transaction processing (OLTP), OLCP, data warehousing, and extended object/relational architecture. The included Starburst **optimizer**, a product of IBM research, is a standout feature that provides a unique and innovative query rewrite ability. Oracle gained new strength from the company's network computer (NC) initiative, which is gaining popularity among consumers, for whom it provides a lower cost alternative to the PC. Oracle 8 runs on the most powerful platforms, and can compete for high-performance, TB-sized customers. Oracle's packaged application business is also very successful, and products that combine RDBMS technology and application support include Application Data Warehouse, Data Mart Suites, and FastForward. Microsoft's Scalability Day provided an initial look at SQL Server 7.0, also called Sphinx, which competes with Oracle and DB2. Sun promotes Java as a Microsoft killer, but server-side Java may increase the trend toward database and hardware products as commodities. Sybase is optimizing SQL Server 11.5 for OLTP and mixed workload databases.

COMPANY NAME: IBM Corp (351245); Oracle Corp (010740); Sybase Inc (414981); Rational Software Corp (519201); Microsoft Corp (112127)
DESCRIPTORS: Data Marts; Data Warehouses; Database Management; Database Servers; Decision Support Systems; Program Development; Software Marketing
REVISION DATE: 20020703

31/5/16

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00105075 DOCUMENT TYPE: Review

PRODUCT NAMES: ModelQuest System Validator (681393); NeuroGenetic Optimizer (617679); ExamiNeur (681407)

TITLE: Data-Mining at Work

AUTHOR: Montgomery, Gerard Liston, Gerard Cook, Carl McGrew, Steve

SOURCE: PC AI, v11 n5 p16(4) Sep/Oct 1997

ISSN: 0894-0711

HOME PAGE: <http://www.pcai.com/pcai>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

AbTech's ModelQuest System **Validator** and BioComp's NeuroGenetic **Optimizer** and ExamiNeur are data mining products highlighted and described by their vendors. ModelQuest is part of the automated flight control system **validation** product developed for NASA DFRC. It assisted system engineers in **validating** the F-18 High Alpha Research Vehicle Research Flight Control System. It lowered the **amount** of time and **cost** of **validation** and diagnosis of advanced analog systems, enhanced confidence in system validity, and automated development of superior system-level diagnostic models. ModelQuest Standard Generalized Markup Language (SGML) increases

the probability of finding a process during the **validation** process and uses various statistical and data mining strategies. Data mining is being used by a brewery to test the potential of this method to lower energy usage. NeuroGenetic **Optimizer** (NGO) creates high accuracy neural models, and its input variable selection and automated neural architecture optimization offer precise models that improve predictions. They are also a foundation for more understanding and the ability to make improvements. Examineur allows users to better comprehend information content and models' behaviors, and to search for particular sets of conditions.

COMPANY NAME: MarketMiner Inc (500283); BioComp Systems Inc (620441)
SPECIAL FEATURE: Screen Layouts Output Samples
DESCRIPTORS: Artificial Intelligence; Business Models; Engineering;
Genetic Algorithms; Manufacturing; Models; Neural Networks
REVISION DATE: 20000430

31/5/17

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00103945 DOCUMENT TYPE: Review

PRODUCT NAMES: Microsoft Windows 98 Beta 2 (740896)

TITLE: Windows 98's Beta 2 Shows Promise
AUTHOR: Harbaugh, Logan
SOURCE: Information Week, v647 p80(2) Sep 8, 1997
ISSN: 8750-6874
HOMEPAGE: <http://www.informationweek.com>

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: B

The second beta release of Microsoft's Microsoft Windows 98 shows that it is not a revolutionary change, but is still a promising upgrade to Windows 95. Network administrators and advanced Windows users will enjoy a new Windows 98 application called TSHOOT.EXE, a troubleshooting application that lets users activate or deactivate startup parameters from one interface. Many of Windows 98's new features seem to have been created for end-users, including the World Wide Web creation tool FrontPad and new Internet and **multimedia** streaming capabilities. Windows 98 also includes new features for administrators, such as zero administration, which gives administrators more control over system usage policies. Other great new management features discussed include Web-based automatic updating, the disk **defragmenter**, and FAT32.

COMPANY NAME: Microsoft Corp (112127)
SPECIAL FEATURE: Screen Layouts Charts
DESCRIPTORS: IBM PC & Compatibles; Network Software; Operating Systems;
Windows
REVISION DATE: 19990430

31/5/18

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00103835 DOCUMENT TYPE: Review

DB2 5 will run on Windows NT, all important UNIX variants, and OS/2. Pricing is expected to be in the same range as Microsoft's Microsoft SQL Server at the workgroup level. Parallel processing enhancements should substantially improve use with symmetric multiprocessing platforms. DB2 5 uses CPU parallelism in a single query, which is usually designated an 'intra-query parallelism.' It also makes the most of multiple CPUs for parallel loads of databases and to accelerate index creation. Multiple table spaces can also be backed up or restored in parallel. A Control Center tool, a new graphical user interface (GUI), allows database administrators to create, eliminate, change, and manage database objects, including tables, views, indexes, aliases, triggers, users, and groups. Control Center also can manage replication sources and subscriptions. Other easy-to-use tools include Script Center, which edits and runs scripts made up of DB2 commands, SQL statements, and OS commands. Visual Explain is a helpful administration tool that offers a graphical view of the SQL access paths chosen by IBM's **Optimizer** query optimization tool.

COMPANY NAME: IBM Corp (351245)

SPECIAL FEATURE: Screen Layouts

DESCRIPTORS: Database Management; DB2; IBM PC & Compatibles; Image Storage
; **Multimedia** ; OS/2; Parallel Processing; Program Development; UNIX;
Windows NT/2000

REVISION DATE: 20000830

31/5/20

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00101835

DOCUMENT TYPE: Review

PRODUCT NAMES: Oracle 8 (004233)

TITLE: The Great 8: Oracle8 Brings Object-Relational Capabilities...

AUTHOR: Gill, Philip J

SOURCE: Oracle Magazine, v11 n3 p45(7) May/Jun 1997

ISSN: 1065-3171

HOME PAGE: <http://www.oramag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

Oracle's Oracle 8 provides object-relational support for high-end data management by combining large objects, **complex data types**, and powerful **relational** ad hoc **query** functions. New applications can be created without any coding, and the ORDBMS also supports complex business objects, object-oriented programming, and compatibility with RDBMSs. Also provided are greater scalability, reliability, manageability, and versatility than provided in earlier Oracle Server releases. An expert says users need support for new data types, including multimedia and other data types related to Internet and World Wide Web use. Oracle 8 is designed to meet the requirements of the most demanding database and online transaction processing (OLTP) applications used currently in the enterprise, and the newest version of Oracle Server eliminates all earlier size limits, both for database size and user population. It supports revenue generating services, including mission critical automated teller-machine and credit card authorization systems with mammoth databases. Users and experts provide positive comments about Oracle's data partitioning and back-up/recovery; support for World Wide Web-enabled data access; support for objects, **complex data types**, and object views of relational data;

and the superior functionality of ORDBMSes as compared to pure object databases. Users interviewed say ORDBMSs combine the best of both database types, and that Oracle 8 is a good strategic platform.

COMPANY NAME: Oracle Corp (010740)
DESCRIPTORS: Database Management; OOP (Object Oriented Programming);
Oracle; Program Development
REVISION DATE: 20030430

31/5/21

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00100451 DOCUMENT TYPE: Review

PRODUCT NAMES: MULTI 2000 (360554); QNX Photon microGUI (559652)

TITLE: Development-tool trends
AUTHOR: Varhol, Peter
SOURCE: Computer Design, v36 n2 p76(4) Feb.1997
ISSN: 0010-4566
HOMEPAGE: <http://www.computer-design.com>

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Green Hills Software's compiler components (Language Front End, Multi, Global **Optimizer**, and Code Generator), MetaWare's SP/EDK Embedded Development Kit, and QNX Software Systems' Photon microGUI are highlighted in a discussion of embedded system development tool trends. Improved development tools mean more productivity and faster code, and both Green Hills and MetaWare are vendors that provide families of compilers for multiple languages and multiple processors. Green Hill supports many compiler families in its modular products. Each compiler has three components: Language Front End, Global **Optimizer**, and Code Generator. Language Front End is identical for all processors. It reads source files and parses them into a parse tree and symbol table. Global **Optimizer** looks at the parse tree and further optimizes it. Code Generators are the back end of compiling, and they are different for each family. Therefore, all changes to the high-level language can be mirrored instantly on all processors. MetaWare supports fewer languages and platforms, but its compilers are admirably efficient. Powerful, advanced debugging tools from MetaWare include SP/EDK Embedded Development Kit with the SP/Link 386 advanced **linker** and **locator** and SP/RTD remote target debugger. Green Hills provides a debugger in the full-functioned Multi advanced programming environment. Topics covered include legacy code maintenance, the ETS embedded software bus, special purpose tools, and Java's platform independence.

COMPANY NAME: Green Hills Software Inc (128694); QNX Software Systems Ltd (366927)
SPECIAL FEATURE: Screen Layouts Charts
DESCRIPTORS: CAE; Code Generators; Compilers; Embedded Systems; Engineering; Program Development; User Interfaces; Windowing
REVISION DATE: 20030327

31/5/22

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00099830 DOCUMENT TYPE: Review

PRODUCT NAMES: Microsoft Windows NT (347973); Diskeeper 1 Windows NT (017449)

TITLE: Disk fragmentation hounds power NT users

AUTHOR: DiDio, Laura

SOURCE: Computerworld, v31 n3 p49(2) Jan 20, 1997

ISSN: 0010-4841

HOME PAGE: <http://www.computerworld.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

Users of Microsoft's Microsoft Windows NT have only one third-party defragmentation utility, Diskeeper from Executive Software, at their disposal, and complain that disk fragmentation plagues their systems, even though the advanced NT File System (NTFS) was expected to mitigate such problems. Disk fragmentation results in files broken up and stored in chunks on the hard disk, and it increases with the quantity and size of stored files. Hard disks that have a large **amount** of fragmentation (50 percent or higher) can adversely impact overall system performance and may possibly crash the system. Fragmentation is unavoidable and is a continuing issue for Windows users. Even expert Windows NT users are caught unexpectedly and experience a crash before **detecting** an unacceptable level of fragmentation. Many users are under the impression that NTFS, which replaces the File Allocation Table (FAT), protects Windows NT from fragmentation. One user found that performance on his Windows NT machines was way too slow, and the culprit turned out to be 70 percent disk fragmentation. Such users can either do a full backup and restore on the disk, a time-consuming solution, or use a disk **defragmenter**, a type of product that repositions files on a disk to make them as close together as possible on the disk. Microsoft plans to provide a defragmentation utility for Windows NT after Windows NT 5.0 ships.

COMPANY NAME: Microsoft Corp (112127); Executive Software International (128309)

DESCRIPTORS: Disk Editors; IBM PC & Compatibles; System Performance; System Utilities; Windows NT/2000

REVISION DATE: 20021226

31/5/23

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

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00098357 DOCUMENT TYPE: Review

PRODUCT NAMES: Oracle 7 7.3 (004233)

TITLE: VLDB Rules....: Newest Oracle Server

AUTHOR: Gill, Philip J.

SOURCE: Oracle Magazine, v10 n6 p48(16) (p56(2)) Nov/Dec 1996

ISSN: 1065-3171

HOME PAGE: <http://www.oramag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Oracle's Oracle 7 7.3, the newest Oracle server, has important features for very large databases (VLDBs), and Oracle 8 will provide even more enhancements. Oracle Server was constructed from the outset to process databases of any size on any platform, and features that support this architecture in Oracle 7 7.3 include hash joins; bit-mapped indexing; parallel server enhancements; better space and memory management; scalability and star queries; parallel-aware query optimization; and asynchronous read-ahead for table scans. The Oracle 7 online analytic processing (OLAP) option eases storage, access, and analysis of large data stores. Oracle 7 7.3 is part of the Oracle Universal Server product family, which sports integration and handling of text, **video**, and spatial data, along with messaging, collaboration, and directory services. The hash join algorithm enhances complex-query performance using in-memory hash tables at run-time, to eliminate the need for sorting. Oracle 7 7.3 has a cost-based **optimizer** that is intelligent enough to choose the most apt join method. Bit-mapped indexing improves performance for decision support applications, and parallel execution of UNION and UNION ALL operations allow decision support applications to put together result sets from more than one underlying tables. Memory management is better, and scalability and performance under heavy loads are improved with shared resources, such as buffer cache and shared SQL cache, logically segmented into multiple sets to reduce contention.

COMPANY NAME: Oracle Corp (010740)
DESCRIPTORS: Database Management; Database Servers; OLTP; Oracle; Parallel Processing; Program Development; System Performance
REVISION DATE: 20030428

31/5/24

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00089511 DOCUMENT TYPE: Review

PRODUCT NAMES: Unicenter Plan Analyzer for DB2 (557382)

TITLE: Platinum Plan Analyzer

AUTHOR: Burleson, Don

SOURCE: DBMS, v9 n3 p35(3) Mar 1996

ISSN: 1041-5173

HOME PAGE: <http://www.dbmsmag.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: A

PLATINUM technology's PLATINUM Plan Analyzer (PPA) is an excellent value for developers who must leverage Oracle SQL, and for database administrators who need tools that show table and index statistics quickly. The product performs as promised by the vendor to allow Oracle developers to optimize SQL queries for the fastest possible SQL syntax delivery. PPA speeds up manual optimization, which is required to change a query path to bypass suggestions made by the rules-based optimizer and the cost-based optimizer. PPA shows SQL plans quickly, and describes the reasons a path was chosen. The Visualize feature shows **execution plans** sequentially and provides an English description of each step. PPA's advantages for Oracle developers include an exploded plan for a query with a complete list

of accessed objects and of alternative access paths.

PRICE: \$1995

COMPANY NAME: Computer Associates International Inc (081957)
SPECIAL FEATURE: Screen Layouts
DESCRIPTORS: Database Management; Information Retrieval; Oracle; Program
Development; SQL; System Performance
REVISION DATE: 20030925

31/5/25

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00088898 DOCUMENT TYPE: Review

PRODUCT NAMES: Company--Novell Inc (850438)

TITLE: Novell recasts itself as Internet guide

AUTHOR: DiDio, Laura

SOURCE: Computerworld, v30 n13 p12(1) Mar 25, 1996

ISSN: 0010-4841

HOME PAGE: <http://www.computerworld.com>

RECORD TYPE: Review

REVIEW TYPE: Company

Novell told an enthusiastic BrainShare conference crowd that it will focus on Internet connectivity instead of applications services. CEO Robert Frankenberg strongly voiced Novell's intention to maintain its LAN lead in the Net arena. As evidence, Frankenberg mentioned Novell's licensing of Java and a licensing/development agreement to embed OM-Secure Link electronic commerce code in NetWare. Several important paths lead to one-vendor Internet support, says Frankenberg. They are smart LANs with enhanced NetWare; smart, interconnected networks; standardized developer interfaces based on Net 2000 for full-functioned network access via GroupWise; and implementation of NetWare Embedded Systems Technology (NEST) to expand network connectivity beyond LANs and PCs. Analysts and users like the plan, especially its direct links to Windows NT Server, but they want Novell to be more specific and to produce an **execution plan**.

COMPANY NAME: Novell Inc (344893)
DESCRIPTORS: Internet Utilities; Java; LANs; Network Software; Software
Marketing
REVISION DATE: 20020830

31/5/26

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00086277 DOCUMENT TYPE: Review

PRODUCT NAMES: DB2 2 Windows NT (701866)

TITLE: IBM's DB2 for Windows NT looks powerful, not pretty

AUTHOR: Taschek, John

SOURCE: PC Week, v12 n48 p1(2) Dec 4, 1995

ISSN: 0740-1604

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: B

DB2 2 for Windows NT, designed to compete with Microsoft's and Sybase's SQL Servers, has a graphical user interface (GUI) without graphical tools. Most tasks are done from the command line. The bundled Approach 96 still uses an Open Database Connectivity (ODBC) driver to gain access to the SQL database. Installation is Windows NT-style; Windows NT's security, performance monitoring, and Event Log are supported. IBM's naming convention for tables is wrong; tables are called databases, and IBM should eliminate the confusion. However, the powerful DB2 2 provides an advanced SQL **optimizer** that provides a **cost**-based algorithm. The algorithm **determines costs** for each query path and chooses the lowest- **cost** option. The **optimizer** works on joins of over 15 tables, and a query rewrite function increases efficiency. Other performance boosting features are described.

PRICE: \$369

COMPANY NAME: IBM Corp (351245)
SPECIAL FEATURE: Charts Screen Layouts
DESCRIPTORS: Database Management; Database Servers; DB2; IBM PC &
Compatibles; Program Development; Windows NT/2000
REVISION DATE: 20010430

31/5/27

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00084441 DOCUMENT TYPE: Review

PRODUCT NAMES: Genesys Astound! 2.0 Windows (087076)

TITLE: Gold Disk Astound 2.0
AUTHOR: Petersen, Steve
SOURCE: PC Graphics & Video, v4 n8 p62(3) Aug 1995
ISSN: 1060-5282

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

Gold Disk's Astound! 2.0 for Windows is a well coordinated presentation and authoring product with many predesigned templates and special effects. It is rated excellent, especially for its productive environment comprised of authoring applets, an intuitive presentation interface, and superb **multimedia** file management tools. The CD-ROM provides many often-used sounds and clip art selections. Presentation design and construction are fun with Astound!, and the functions provided can create all but the most advanced presentations. All slide items are objects, including text, shapes, buttons, and graphic images. This release provides texture fills for objects and backgrounds, as well as a spell checker. A new timeline dialog makes sequencing adjustments easy, and many charting options are provided. A delivery **optimizer** scans a presentation and recommends changes, and run-time players for Windows and the Macintosh are provided.

PRICE: \$249

COMPANY NAME: Genesys Conferencing (620386)

SPECIAL FEATURE: Screen Layouts Charts
DESCRIPTORS: Apple Macintosh; Clip Art; Graphics Tools; IBM PC &
Compatibles; MacOS; Presentations; Windows
REVISION DATE: 20020703

31/5/28

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00084077 DOCUMENT TYPE: Review

PRODUCT NAMES: PLATINUM ProReports 1.4 (560669)

TITLE: Corporate Ammunition

AUTHOR: Tyo, Jay

SOURCE: Information Week, v549 p68(2) Oct 16, 1995

ISSN: 8750-6874

HOME PAGE: <http://www.informationweek.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: B

PLATINUM Technology's PLATINUM ProReports 1.4 allows users to pull information from more than **one** source to a single report. Native drivers for DB2, Oracle, Sybase, Informix, Rdb/VMS, and CA-Ingres are provided. The product runs with Microsoft Windows 3.1, Windows 95, and Windows NT; a beta version for Motif has just been issued. ProReports provides mouse-driven functions for designing and constructing reports. Its uniqueness lies in its ability to link various styles or data sources in a single report. This release can be configured with query governors that monitor elapsed time, number of rows retrieved, and number of **tables joined**. **Optimizers** can be used to accelerate processing, and caching options can manage large returned data sets. ProReports has a database metadata definition language, MDL, with such amenities as hidden database login and obscuring of confusing tables and fields.

PRICE: \$695

COMPANY NAME: Computer Associates International Inc (081957)

SPECIAL FEATURE: Screen Layouts Charts

DESCRIPTORS: Database Utilities; DB2; IBM PC & Compatibles; Information Retrieval; Informix; Ingres; Oracle; Rdb; Report Generators; Windows; Windows NT/2000

REVISION DATE: 20000830

31/5/29

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00078954 DOCUMENT TYPE: Review

PRODUCT NAMES: RAM Doubler Windows 1.0 (499561)

TITLE: RAM Doubler boosts Windows resources

AUTHOR: Peschel, Joe

SOURCE: InfoWorld, v17 n26 p103(1) Jun 26, 1995

ISSN: 0199-6649

HOME PAGE: <http://www.infoworld.com>

REVISION DATE: 20020422

31/5/31

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00078434 DOCUMENT TYPE: Review

PRODUCT NAMES: Oracle 7 (004233)

TITLE: Oracle7

AUTHOR: Baird, Willard

SOURCE: Data Management Review (DM Review), v5 n4 p24(2) Apr 1995

ISSN: 1066-5498

HOME PAGE: <http://www.dmreview.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: A

Oracle's Oracle 7 database development tool runs on more than 90 platforms, including most popular client/server systems. Oracle 7 is a high-performance database product, with advanced features such as referential integrity, row-level locking, and database triggers. The database is protected with a referential integrity feature. Constraints are available for backup/recovery and bulk loading. Oracle's row-level locking is superior to page-level locking used by other products. Multiple rows can be on a page, so row-level locking is faster and more flexible. With the database triggers, source code can be placed at the database level. Stored procedures compile blocks of code, which can contain SQL statements. A **cost**-based **optimizer** has also been added to evaluate retrieval paths for any given SQL statement, and **determine** the best retrieval path.

COMPANY NAME: Oracle Corp (010740)

DESCRIPTORS: Client/server; Database Management; Network Software; Oracle;
Program Development

REVISION DATE: 20030428

31/5/32

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00078050 DOCUMENT TYPE: Review

PRODUCT NAMES: WATCOM SQL 4.0 (394998)

TITLE: Inspecting Watcom SQL 4.0

AUTHOR: Price, Josh Vijay, Bharat

SOURCE: DBMS, v8 n5 p100(3) May 1995

ISSN: 1041-5173

HOME PAGE: <http://www.dbmsmag.com>

RECORD TYPE: Review

REVIEW TYPE: Review

GRADE: A

Powersoft's WATCOM SQL 4.0, the latest release of the Intel PC-specific SQL engine, is a low-cost, full-functioned, and powerful programming alternative to high-end relational database management systems (RDBMSs).

The Windows NT release reviewed has the potential to support desktop, mobile, and workgroup users well. Installation is straightforward, and the product provides the usual interactive SQL (ISQL) tool. WATCOM SQL does not run as a Windows NT service, which requires the user to be logged into the Windows NT server if the database server is to run. During test, it ran in 4MB RAM, in a footprint of about 1MB. Stored procedures and triggers are now provided, and a multithreaded design allows many logical threads to execute for user requests. Automatic cancellation and roll-back of the last transaction cures deadlocks, and a basic cost-based optimizer creates an **execution plan** based on the lowest cost.

COMPANY NAME: Sybase Inc (414981)
SPECIAL FEATURE: Program Listings
DESCRIPTORS: Database Management; IBM PC & Compatibles; Program Development; SQL; Windows NT/2000
REVISION DATE: 20010430

31/5/33

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.
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00077753 DOCUMENT TYPE: Review

PRODUCT NAMES: MacTools Pro 4.0 (408191)

TITLE: MacTools Pro 4.0
AUTHOR: Negrino, Tom
SOURCE: Macworld, v12 n5 p73(2) May 1995
ISSN: 0741-8647
HOMEPAGE: <http://www.macworld.com>

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: C

The latest upgrade to Symantec's MacTools Pro can run on the Power Mac, but does not support System 6 and will not run on a Mac Plus, SE, Classic, or PowerBook 100. MacTools Pro 4.0 combines the DiskFix, Anti-Virus, **Optimizer**, Undelete, and FileFix utilities. The Backup program has a confusing interface, but is able to work with removable **media** and digital **audiotapes**. The new RAMboot feature automatically creates a RAM disk with a System file, and can automatically restart the Mac from the RAM disk. Also new is the QuickAssist feature, a help system that takes users through the process of disk repair. DiskFix can repair more disk problems without having to reboot, and is faster than the DiskFix utility from the previous version. The AutoCheck and Anti-Virus utilities constantly scan the disk. Both work well, but consume a high amount of RAM. Technical support is costly; there is no free phone support.

PRICE: \$150

COMPANY NAME: Symantec Corp (386251)
SPECIAL FEATURE: Screen Layouts
DESCRIPTORS: Apple Macintosh; Data Recovery; Disk Editors; File Security; File Utilities; MacOS; PowerMac; System Performance; System Utilities
REVISION DATE: 20011130

31/5/34

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00076796 DOCUMENT TYPE: Review

PRODUCT NAMES: Macromedia Authorware 3.0 (459828); Script X (389234); Genesys Astound! (087076); Media Suite Pro (421103); myHouse Windows (444898)

TITLE: Power Tools: Creating Multimedia Interactive Authoring

AUTHOR: Worthington, Paul

SOURCE: Multimedia World, v2 n5 p43(4) Apr 1995

ISSN: 1073-4759

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

There are many new applications that make it easy to create **multimedia**. Macromedia's Authorware 3.0 cross-platform tool is now a full studio environment. It presents an iconic flowchart interface, and supports hypertext and hypermedia. Kaleida Labs' ScriptX development language can be used to create a single application, capable of running on the Kaleida **Media** Player, on either a PC or Macintosh. Gold Disk's Astound software has been upgraded, to bring users high-end tools without a high learning curve. It includes an **optimizer** feature, which suggests ways to improve a presentation. Avid Technology's **Media** Suite Pro requires Windows 95 to provide improved graphics. It includes editing software that supports four **audio** tracks. DesignWare's myHouse for Windows is a **multimedia** architecture program that creates a realistic rendition of a house plan. Users can create walkthroughs, and have access to a set of predesigned floor plans.

COMPANY NAME: Macromedia Inc (423106); Kaleida Labs Inc (531677); Genesys Conferencing (620386); Avid Technology Inc (468011); Learning Co (367346)

SPECIAL FEATURE: Screen Layouts

DESCRIPTORS: Apple Macintosh; Architects; Authoring Systems; Hypertext; IBM PC & Compatibles; MacOS; **Multimedia**; Presentations; Web Site Design; Windows

REVISION DATE: 20020923

31/5/35

DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

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00075870 DOCUMENT TYPE: Review

PRODUCT NAMES: AutoLogic II II (366251)

TITLE: Mentor Unveils Synthesis Software

AUTHOR: Dorsch, Jeff

SOURCE: Electronic News, v41 n2047 p46(2) Jan 9, 1995

ISSN: 1061-6624

HOME PAGE: <http://www.interport.net/enews>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

AutoLogic II is a new suite of synthesis tools for deep-submicron design of ASICs, FPGAs, and other ICs. The product is evaluated based on second-hand information and discussed in **relation** to Mentor **Graphics** ' business strategies. For the first time Mentor is making a product supporting Verilog and VHDL HDLs. Exemplar Logic produced language synthesis technology for the product and the two companies are pursuing other joint development of technology. Mentor claims its tools run faster than those of field leader Synopsys at **one** -third the price measured over three years. New features include the Advanced Silicone Timing Package (ASTP), the RapidExpert user interface, and Verilog synthesis. Three basic components of the product are: AutoLogic HDL, for Verilog and VHDL synthesis; AutoLogic **Optimizer** , with RapidExpert ASTP and optimization algorithms; and AutoLogic Blocks, for graphically creating and synthesizing designs.

COMPANY NAME: Mentor Graphics Corp (353175)
SPECIAL FEATURE: Screen Layouts
DESCRIPTORS: CAD; CAD CAM; CAE; Circuit Design; Electrical Engineering;
Hardware Description Languages; Simulation; Verilog; VHDL
REVISION DATE: 19990530

31/5/36

DIALOG(R)File 256;SoftBase:Reviews,Companies&Prods.
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00069343. DOCUMENT TYPE: Review

PRODUCT NAMES: Signal Processing Worksystem 3.1 (364371)

TITLE: DSP Toolset Provides Path for Wireless and Multimedia Applications

AUTHOR: Donlin, Mike
SOURCE: Computer Design, v33 n8 p110(1) Jul 1994
ISSN: 0010-4566
HOMEPAGE: <http://www.computer-design.com>

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Alta Group's Signal Processing WorkSystem 3.1 is a design tool for digital signal processors (DSPs). It has a multi-rate design feature that includes a blocks library for automated creation of scheduled multi-rate simulations. The product's simulator and code generator compute and maintain all sampling rates in a system model. The RF library provides blocks for nonlinear amplifiers, switches, couplers, A-D converters, and mixers. A Fixed Point **Optimizer** finds the best attributes for an algorithm, created as a block diagram, including minimum word length required to assign a signal to quantization noise criterion or other user-selected performance indicator. The product is available for Hewlett-Packard, IBM, and Sun 4 workstations.

COMPANY NAME: Cadence Design Systems Inc (449121)
SPECIAL FEATURE: Screen Layouts Charts
DESCRIPTORS: CAD CAM; CAE; Code Generators; Computer Equipment; DSP
(Digital Signal Processors); Electrical Engineering; Program
Development; Simulation
REVISION DATE: 20021226

or Windows includes backup software also available as a standalone package. GammaTech Utilities for OS/2 is a disk repair utility for recovering erased files on OS/2 systems, providing optimization, reporting, and maintenance utilities like those in Norton and PC Tools. However, they are effective for OS/2 HPFS and FAT systems. NetRoom 3.0 is a memory manager that substitutes high speed code for the entire **video** BIOS, saving RAM space usually used. FastTrax 5.0 is a superior standalone **defragmenter** that delivers substantial performance improvements. CheckIt PRO: Analyst provides IRQ usage reporting in a system management and reporting package.

COMPANY NAME: Symantec Corp (386251); SofTouch Systems Inc (490547);
Network Associates Inc (613304); Smith Micro Software Inc (356875)
SPECIAL FEATURE: Charts Tables
DESCRIPTORS: Computer Diagnostics; Computer Equipment; Disk Editors; DOS;
IBM PC & Compatibles; System Performance; System Utilities; Technical
Support; Windows
REVISION DATE: 20020930

31/5/39

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00065216 DOCUMENT TYPE: Review

PRODUCT NAMES: Sybase SQL Server (695017); Sybase System 10 (408425)

TITLE: Sybase, PeopleSoft Zero In On System 10 Glitch

AUTHOR: Knowles, Anne Bowen, Ted Smalley
SOURCE: PC Week, v11 n24 p59(1) Jun 20, 1994
ISSN: 0740-1604

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

SQL Server and System 10 don't always work well together when applications are ported to System 10. Therefore, PeopleSoft and Sybase are working together to solve problems caused when PeopleSoft applications with complex SQL statement (subselects) bog down System 10. The SQL Server **optimizer** must be enhanced to support both outside-in and inside-out methods of subselect optimization handling. Users interviewed report no other problems with System 10, noting that PeopleSoft's coding techniques are probably responsible for the problems. Several developers interviewed note that they attempt to keep joins down to a level of four, since **joins** across 16 **tables** don't perform adequately with any database. 'Keep it simple' is the goal, according to a financial application developer.

COMPANY NAME: Sybase Inc (414981)
DESCRIPTORS: Database Management; Database Servers; IBM PC & Compatibles;
Network Software; Program Development; SQL; SQL Server
REVISION DATE: 20000830

31/5/40

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.
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00060619 DOCUMENT TYPE: Review

Set	Items	Description
S1	660	ORDBMS OR OBJECT()RELATIONAL()DBMS OR OBJECT()RELATIONAL()-(DATABASE OR DATE()BASE)()MANAGEMENT()SYSTEM OR (UNIVERSAL OR HYBRID)() (DATABASE? OR DATA()BASE?)
S2	5073	OPTIMIZER? OR DEFRAGGER? OR DEFRAGMENTER?
S3	4553999	DETERMIN? OR DECID? OR ASCERTAIN? OR RESOLV? OR DETECT? OR RECOGNI? OR VERIFY? OR AUTHENTICAT? OR VALIDAT?
S4	3459389	COST? ? OR COSTING OR PRICE? ? OR PRICING OR VALUE OR CHARGE? OR AMOUNT
S5	6224678	JOIN? OR LINK? OR CONNECT? OR COMBINE? OR ASSOCIAT? OR RELAT?
S6	8447	S5 (2N) (QUERY OR QUERIES OR INQUIR? OR REQUISITION? OR REQUEST? OR PETITION?)
S7	2978872	SELECT? OR CHOOSE OR CULL OR ELECT OR CHOICE OR INCLUDE? OR PICK???
S8	23708	(LOWEST OR LEAST OR SMALLEST OR LOWERMOST OR NETHERMOST OR BOTTOM) (2N)S4
S9	114612	S5 (2N) (PATH? OR LOCAT? OR ADDRESS? OR PLACE? OR POSITION? OR LOCAL? OR VECTOR? OR COORDINATES)
S10	60599	S5(2N) (TUPLE OR TABLE? OR ARRAY? OR (MATHEMATICAL OR DATA)-()ELEMENT? OR MATRIX? OR MATRICES OR COLUMN? OR ROW? OR GRAPH? OR FAT OR MFAT)
S11	2906272	CARDINALITY OR CARDINALITIES OR ONE(1N) (ONE OR MANY) OR CARDINAL()NUMBER? OR KNAPSACK()VECTOR? OR DISTINCT()ELEMENT?
S12	14558	(COMPLEX OR INTERCONNECT? OR INTERWOVEN) (2N) (ATTRIBUTE? OR DATA() (TYPE? OR VALUE?) OR PARAMETER? OR SCHEMA OR LIMIT? OR BOUND? OR DESCRIPT? OR TYPE()INFORMATION)
S13	837496	(TV OR TELEVISION OR RADIO) () (SHOW? OR PROGRAM? OR BROADCAST?) OR MEDIA()ASSET? OR VIDEO? OR AUDIO? OR MULTIMEDIA OR MEDIA
S14	1001	EXECUTION()PLAN?
S15	13	S1 AND S2
S16	19	S2 AND S3 AND S4 AND S6
S17	989	S2 AND S3
S18	294	S17 AND S4
S19	47	S17 AND S6
S20	19	S18 AND S6
S21	12	S2 AND S7 AND S8
S22	39	S2 AND S9
S23	45	S2 AND S10
S24	23	S6 AND S12
S25	10806	S10 AND S11
S26	11	S2 AND S25
S27	89	S2 AND S13
S28	90	S1 AND S4
S29	90	S2 AND S14
S30	419	*deleted* S15 OR S16 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S26I OR S27 OR S28 OR S29
S31	217	S30 AND S4
S32	419	S15 OR S16 OR S19 OR S20 OR S21 OR S22 OR S23 OR S24 OR S26 OR S27 OR S28 OR S29
S33	217	S32 AND S4
S34	14	S33 AND S8
S35	35	S33 AND S6
S36	18	S33 AND S9
S37	12	S33 AND S10
S38	66	S33 AND S11
S39	5	S33 AND S12
S40	26	S33 AND S13
S41	125	S34 OR S35 OR S36 OR S36 OR S38 OR S39 OR S40
S42	102	S41 NOT PY>2001

S43 102 S42 NOT PD>20011026
S44 88 RD (unique items)
File 8: Ei Compendex(R) 1970-2004/Feb W5
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File 95: TEME-Technology & Management 1989-2004/Feb W4
(c) 2004 FIZ TECHNIK
File 583: Gale Group Globalbase(TM) 1986-2002/Dec 13
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44/5/1 (Item 1 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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06657811 E.I. No: EIP03507782726

Title: Optimization Techniques for Queries with Expensive Methods

Author: Hellerstein, Joseph M.

Corporate Source: University of California, Berkeley EECS Computer Science Division 387 Soda Hall #1776, Berkeley, CA 94720-1776, United States

Source: ACM Transactions on Database Systems v 23 n 2 June 1998. p 113-157

Publication Year: 1998

CODEN: ATDSD3 ISSN: 0362-5915

Language: English

Document Type: JA; (Journal Article) Treatment: L; (Literature Review/Bibliography); T; (Theoretical)

Journal Announcement: 0312W4

Abstract: Object-relational database management systems allow knowledgeable users to define new data types as well as new methods (operators) for the types. This flexibility produces an attendant complexity, which must be handled in new ways for an **object - relational database management system** to be efficient. In this article we study techniques for optimizing queries that contain time-consuming methods. The focus of traditional query **optimizers** has been on the choice of join methods and orders; selections have been handled by "pushdown" rules. These rules apply selections in an arbitrary order before as many joins as possible, using the assumption that selection takes no time. However, users of object-relational systems can embed complex methods in selections. Thus selections may take significant amounts of time, and the query optimization model must be enhanced. In this article we carefully define a query **cost** framework that incorporates both selectivity and **cost** estimates for selections. We develop an algorithm called Predicate Migration, and prove that it produces optimal plans for queries with expensive methods. We then describe our implementation of Predicate Migration in the commercial **object - relational database management system** Illustra, and discuss practical issues that affect our earlier assumptions. We compare Predicate Migration to a variety of simpler optimization techniques, and demonstrate that Predicate Migration is the best general solution to date. The alternative techniques we present may be useful for constrained workloads. 61 Refs.

Descriptors: *Query languages; Object oriented programming; Optimization; Algorithms

Identifiers: Data types; **Query optimizers**; Object- **relational** systems; Predicate migration

Classification Codes:

723.1.1 (Computer Programming Languages)

723.1 (Computer Programming); 921.5 (Optimization Techniques)

723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

44/5/2 (Item 2 from file: 8)

DIALOG(R) File 8: Ei Compendex(R)

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06140270 E.I. No: EIP02397101005

Title: Incremental computation of complex object queries

Author: Nakamura, Hiroaki
Corporate Source: IBM Research Tokyo Research Laboratory, Yamato-shi,
Kanagawa-ken 242-8502, Japan
Conference Title: Conference on Object-Oriented Programming, Systems,
Languages and Applications (OOPSLA 2001)
Conference Location: Tampa Bay, FL, United States Conference Date:
20011014-20011018
Sponsor: SIGPLAN
E.I. Conference No.: 59589
Source: Proceedings of the Conference on Object-Oriented Programming
Systems, Languages, and Applications, OOPSLA v 36 2001. p 156-165
Publication Year: 2001
Language: English
Document Type: CA; (Conference Article) Treatment: X; (Experimental)
Journal Announcement: 0209W5

Abstract: The need for incremental algorithms for evaluating database queries is well known, but constructing algorithms that work on object-oriented databases (OODBs) has been difficult. The reason is that OODB query languages involve **complex data types** including composite objects and nested collections. As a result, existing algorithms have limitations in that the kinds of database updates are restricted, the operations found in many query languages are not supported, or the algorithms are too complex to be described precisely. We present an incremental computation algorithm that can handle any kind of database updates, can accept any expressions in complex query languages such as OQL, and can be described precisely. By translating primitive values and records into collections, we can reduce all query expressions into ones composed of only **one** kind of operation, namely comprehension. This makes the problems with incremental computation less complicated and thus allows us to describe the algorithm precisely. Our incremental algorithm consists of two parts: **one** is to maintain the consistency in each comprehension occurrence and the other is to update the **value** of an entire expression. The algorithm is so flexible that we can use strict updates, lazy updates, and their combinations. By comparing the performance of applications built with our mechanism and that of equivalent hand written update programs, we show that our incremental algorithm can be implemented efficiently. 25
Refs.

Descriptors: Object oriented programming; **Query** languages; **Relational** database systems; Algorithms; Program translators; Data structures; Boolean functions; Encoding (symbols); Software engineering; Logic programming; Computer simulation

Identifiers: Object oriented databases; Incremental computation; Abstract syntax trees

Classification Codes:

723.1.1 (Computer Programming Languages)

723.1 (Computer Programming); 723.3 (Database Systems); 723.2 (Data Processing); 721.1 (Computer Theory (Includes Formal Logic, Automata Theory, Switching Theory & Programming Theory)); 723.5 (Computer Applications)

723 (Computer Software, Data Handling & Applications); 721 (Computer Circuits & Logic Elements)

72 (COMPUTERS & DATA PROCESSING)

44/5/3 (Item 3 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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05905210 E.I. No: EIP01416680159
Title: Optimization of schemaSQL queries
Author: Davis, K.B.; Sadri, F.

Corporate Source: Adv. Manufacturing Solutions, Inc., Greensboro, NC, United States

Conference Title: International Database Engineering and Applications Symposium (IDEAS'01)

Conference Location: Grenoble, France Conference Date: 20010716-20010718

Sponsor: Concordia University; IEEE

E.I. Conference No.: 58485

Source: Proceedings of the International Database Engineering and Applications Symposium, IDEAS 2001. p 111-116

Publication Year: 2001

Language: English

Document Type: CA; (Conference Article) Treatment: T; (Theoretical)

Journal Announcement: 0110W2

Abstract: We study the optimization of schemaSQL and schemaSQL-like languages. Our starting point is an extended relational algebra which can be used to implement schemaSQL and similar languages. We study transformation (rewrite) rules for the extended algebra which are used in a prototype **cost** -based **optimizer** for the rewriting of expressions into more efficient ones, generating alternative **execution plans** , and assessing their **costs** . 14 Refs.

Descriptors: **Query** languages; **Relational** database systems; Data mining; Data warehouses; Algebra; Optimization

Identifiers: Dynamic query optimization

Classification Codes:

723.1.1 (Computer Programming Languages)

723.1 (Computer Programming); 723.3 (Database Systems); 723.2 (Data Processing); 921.1 (Algebra); 921.5 (Optimization Techniques)

723 (Computer Software, Data Handling & Applications); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

44/5/4 (Item 4 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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05758856 E.I. No: EIP01015486010

Title: **Object management for a visual data analysis tool**

Author: Onizuka, Makoto; Isobe, Seiji; Horiguchi, Kyotaro

Corporate Source: NTT Cyber Space Lab, Kanagawa, Jpn

Source: Theory and Practice of Object Systems v 5 n 4 1999. p 227-238

Publication Year: 1999

CODEN: 002189 ISSN: 1074-3227

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 0102W5

Abstract: This paper reports the advantages and disadvantages in applying an ODBMS (Object-oriented database management system) and an **ORDEMS** (**Object relational database management system**) to INFOVISER's object management scheme, a visual data analysis tool that we have been researching and developing. This paper also surveys a DBMS called LiteObject, which solves the main problems found in existing DBMSs, such as the complexity of implementing a versioning procedure and performance problems in loading a large number of instances. LiteObject offers version management based on constraints that exclude check in/out procedures from the application source code which decreases the degree of complexity. In addition, LiteObject offers a bulk loading interface to applications and manages several instances in **one** container. This reduces the **amount** of processing by removing identical steps in the process of inserting

instances and adding instances to a collection type attribute. (Author abstract) 17 Refs.

Descriptors: *Relational database systems; Object oriented programming; Computer systems programming; Data structures; Data reduction; Computational complexity; Interfaces (computer); Data acquisition

Identifiers: Object oriented database management systems (ODBMS); Object relational database management systems (**ORDEMS**)

Classification Codes:

723.3 (Database Systems); 723.1 (Computer Programming); 723.2 (Data Processing); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 722.2 (Computer Peripheral Equipment)

723 (Computer Software); 721 (Computer Circuits & Logic Elements); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING)

44/5/5 (Item 5 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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05656526 E.I. No: EIP00095331820

Title: Study in dynamic neural control of semiconductor fabrication processes

Author: Card, Jill P.

Corporate Source: IBEX Process Technology, Inc, West Newbury, MA, USA

Source: IEEE Transactions on Semiconductor Manufacturing v 13 n 3 Aug 2000. p 359-365

Publication Year: 2000

CODEN: ITSMED ISSN: 0894-6507

Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 0011W1

Abstract: This paper describes a generic dynamic control system designed for use in semiconductor fabrication process control. The controller is designed for any batch silicon wafer process that is run on equipment having a high number of variables that are under operator control. These controlled variables **include** both equipment state variables such as power, temperature, etc. and the repair, replacement, or maintenance of equipment parts, which cause parameter drift of the machine over time. The controller consists of three principal components: 1) an automatically updating database, 2) a neural-network prediction model for the prediction of process quality based on both equipment state variables and parts usage, and 3) an optimization algorithm designed to determine the optimal change of controllable inputs that yield a reduced operation **cost**, in-control solution. The **optimizer** suggests a set of **least cost** and **least effort** alternatives for the equipment engineer or operator. The controller is a PC-driven software solution that resides outside the equipment and does not mandate implementation of recommendations in order to function correctly. The neural model base continues to learn and improve over time. An example of the dynamic process control tool performance is presented retrospectively for a plasma etch system. In this study, the neural networks exhibited overall accuracy to within 20% of the observed values of .986, .938, and .87 for the output quality variables of etch rate, standard deviation, and **selectivity**, respectively, based on a total sample size of 148 records. The control unit was able to accurately detect the need for parts replacements and wet clean operations in 34 of 40 operations. The controller suggested chamber state variable changes which either improved performance of the output quality variables or adjusted the input variable

to a lower **cost** level without impairment of output quality. (Author abstract) 17 Refs.

Descriptors: *Semiconductor device manufacture; Process control; Intelligent control; Neural networks; Computer simulation; Database systems ; Learning algorithms; Plasma etching; Computer software; Optimization

Identifiers: Dynamic neural control; Semiconductor fabrication process control; Optimization algorithm; Run to run control

Classification Codes:

714.2 (Semiconductor Devices & Integrated Circuits); 731.1 (Control Systems); 723.4 (Artificial Intelligence); 723.5 (Computer Applications); 723.3 (Database Systems); 723.1 (Computer Programming)

714 (Electronic Components); 731 (Automatic Control Principles); 723 (Computer Software)

71 (ELECTRONICS & COMMUNICATIONS); 73 (CONTROL ENGINEERING); 72 (COMPUTERS & DATA PROCESSING)

44/5/6 (Item 6 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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05413062 E.I. No: EIP99114893892

Title: How to avoid building datablades that know the value of everything and the cost of nothing

Author: Aoki, Paul M.

Corporate Source: Xerox Palo Alto Research Cent, Palo Alto, CA, USA

Conference Title: Proceedings of the 1999 11th International Conference on Scientific and Statistical Database Management (SSDBM'99)

Conference Location: Cleveland, OH, USA Conference Date: 19990728-19990730

Sponsor: Case Western University

E.I. Conference No.: 55509

Source: Scientific and Statistical Database Management - Proceedings of the International Working Conference 1999. p 122-133

Publication Year: 1999

CODEN: 85QLA8

Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)

Journal Announcement: 9912W3

Abstract: The **object - relational database management system (ORDEMS)** offers many potential benefits for scientific, **multimedia** and financial applications. However, work remains in the integration of domain-specific class libraries into **ORDEMS** query processing. A major problem is that the standard mechanisms for query selectivity estimation, taken from relational database systems, rely on properties specific to the standard data types; creation of new mechanisms remains extremely difficult because the software interfaces provided by vendors are relatively low-level. In this paper, we discuss extensions of the generalized search tree, or GiST, to support a higher-level but less type-specific approach. Specifically, we discuss the computation of selectivity estimates with confidence intervals using a variety of index-based approaches and present results from an experimental comparison of these methods with several estimators from the literature. (Author abstract) 44 Refs.

Descriptors: Data structures; **Relational** database systems; **Query** languages; Indexing (of information); Information retrieval systems; Computer software

Identifiers: DataBlades; Generalized search tree; Predicate selectivity

Classification Codes:

723.2 (Data Processing); 723.3 (Database Systems); 903.1 (Information Sources & Analysis); 903.3 (Information Retrieval & Use); 723.1 (Computer Programming)

723 (Computer Software); 903 (Information Science)
72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING)

44/5/7 (Item 7 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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04750897 E.I. No: EIP97073731242

Title: PREDATOR: An OR-DBMS with enhanced data types

Author: Seshadri, Praveen; Paskin, Mark

Corporate Source: Cornell Univ, Ithaca, NY, USA

Conference Title: Proceedings of the 1997 ACM SIGMOD International Conference on Management of Data

Conference Location: Tucson, AZ, USA **Conference Date:** 19970513-19970515

E.I. Conference No.: 46616

Source: SIGMOD Record (ACM Special Interest Group on Management of Data) v 26 n 2 June 1997. ACM, Fort Collins, CO, USA. p 568-571

Publication Year: 1997

CODEN: SRECD8 **ISSN:** 0163-5808

Language: English

Document Type: CA; (Conference Article) **Treatment:** G; (General Review)

Journal Announcement: 9709W1

Abstract: The PREDATOR is an object-relational database management systems, developed at Cornell University, which uses a novel enhanced-abstract data types (E-ADT) technology. E-ADTs add semantics to the **complex data types**, resulting in dramatically improved performance while retaining the extensibility of the database system. The PREDATOR's feature includes: standard **relational query** processing capability through sequential query languages SQL queries; extensibility with **complex data types**; content-based feature extraction, indexing and retrieval using path indexes; extensible optimization of E-ADT expressions by reordering and merging; and World Wide Web/Java-based user interfaces that supports extensible querying and display mechanisms. 13 Refs.

Descriptors: Relational database systems; Data acquisition; Data structures; Information management; Information retrieval; Optimization; **Costs**; Computer programming languages; Geographic information systems; Graphical user interfaces

Identifiers: World wide web (WWW); Java programming languages; Software package PREDATOR; Object relational database management systems; Abstract data types (ADT)

Classification Codes:

723.3 (Database Systems); 723.2 (Data Processing); 903.1 (Information Sources & Analysis); 903.3 (Information Retrieval & Use); 921.5 (Optimization Techniques)

723 (Computer Software); 903 (Information Science); 921 (Applied Mathematics); 911 (Industrial Economics)

72 (COMPUTERS & DATA PROCESSING); 90 (GENERAL ENGINEERING); 92 (ENGINEERING MATHEMATICS); 91 (ENGINEERING MANAGEMENT)

44/5/8 (Item 8 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

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04641250 E.I. No: EIP97033560925

Title: Performance evaluation of different OFL collection traversal strategies

Author: Chretien, Didier; Om, Puthirak; Machuca, Fernando; Tang, ZhaoHui

Corporate Source: Univ of Versailles/Saint-Quentin, Versailles, Fr
Conference Title: Proceedings of the 1996 3rd Biennial Joint Conference
on Engineering Systems Design and Analysis, ESDA. Part 2 (of 9)
Conference Location: Montpellier, Fr Conference Date: 19960701-19960704
Sponsor: ASME PD
E.I. Conference No.: 46123
Source: American Society of Mechanical Engineers, Petroleum Division
(Publication) PD v 74 n 2 1996. ASME, New York, NY, USA. p 97-106
Publication Year: 1996
CODEN: ASMPEX
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9704W4

Abstract: The integration of path expression evaluations in an object-oriented **cost** -driven query **optimizer** is the subject of this paper. We present rewriting rules that transform path expressions into different object target programs (i.e., query **execution plans**). We have used the OFL (Object Functional Language) traversal formalism to describe the rules. OFL is a target object language for OQL-like query compilers. By using the OFL formalism, the most efficient program corresponds to the best collection traversal. Experimental results when traversing multiple collections highlight the outperformance in some cases of ternary hash joins compared to classical binary hash join traversals. Binary and ternary joins are more responsive to the join selectivity than to the memory size. The results show that traversing path indexes are usually the most efficient traversals. Pipelined (i.e., **one** object at a time or depth-first pointer chasing) traversals can be highly efficient depending on the size of memory buffers. (Author abstract) 31 Refs.

Descriptors: *Query languages; Formal languages; Object oriented programming; Program compilers; Buffer storage; Storage allocation (computer); Performance

Identifiers: Collection traversal strategy; Object functional language; Object oriented **cost** driven query **optimizer**

Classification Codes:

723.3 (Database Systems); 721.1 (Computer Theory, Includes Formal Logic, Automata Theory, Switching Theory, Programming Theory); 723.1 (Computer Programming); 722.1 (Data Storage, Equipment & Techniques)
723 (Computer Software); 721 (Computer Circuits & Logic Elements); 722 (Computer Hardware)
72 (COMPUTERS & DATA PROCESSING)

44/5/9 (Item 9 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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04593316 E.I. No: EIP97013489969

Title: Cost -effective compliance with life safety codes

Author: Weber, Stephen F.; Lippiatt, Barbara C.

Corporate Source: Natl Inst of Standards and Technology, Gaithersburg, MD, USA

Source: Fire Technology v 32 n 4 Nov-Dec 1996. p 291-296

Publication Year: 1996

CODEN: FITCAA ISSN: 0015-2684

Language: English

Document Type: JA; (Journal Article) Treatment: G; (General Review)

Journal Announcement: 9703W1

Abstract: ALARM is personal computer software that helps building managers and fire safety engineers achieve **cost** -effective compliance with the widely used NFPA 101, Life Safety Code. The software currently supports health-care occupancy analysis. Through the equivalency provision of the

Title: Universal database for dynamic simulation
Author: Chen, Franklin F.K.; Ronald Moncrief, B.
Corporate Source: Bechtel Corp, San Francisco, CA, USA
Source: Simulation v 65 n 5 Nov 1995. p 293-303
Publication Year: 1995
CODEN: SIMUA2 **ISSN:** 0037-5497
Language: English
Document Type: JA; (Journal Article) **Treatment:** A; (Applications); T; (Theoretical)
Journal Announcement: 9606W3
Abstract: In today's process plant design environment, steady state flowsheet simulations are fairly routine practices. With today's microprocessor power, with availability of capable and **cost** effective software, desktop dynamic models of entire plants are a practical reality. With such information age power tools, possibilities are infinite. Not the least is that the many what-if scenarios surely will enlarge the design parameter space, ensured by a systematic procedure in quality design, all at reasonable **cost**. With the multitude of software platforms, reusable (universal) models are **cost** effective. More significantly, these can be a boon to the credibility issue. The ability to take a complex model, developed elsewhere on an unfamiliar platform, plug into **one**'s favorite simulation software and be operative without the pain/effort in re-engineering the entire model database can surely promote increase in usage of dynamic simulation among plant designers. A **universal database** is proposed to facilitate portability of models among language platforms. In this paper, portability of large complex models is proven by two examples (from plant design) on two platforms (DAP and ACSL). This paper illustrates the database requirements to allow models to commute between vastly different platforms, using specific examples to arrive at a more universal conclusion. (Author abstract) 9 Refs.
Descriptors: Computer simulation; Database systems; Computer software; Desktop publishing; Flowcharting; Computer programming languages; **Cost** effectiveness; Availability
Identifiers: **Universal database**; Dynamic simulation; Systematic procedure
Classification Codes:
723.1.1 (Computer Programming Languages)
723.5 (Computer Applications); 723.3 (Database Systems); 723.1 (Computer Programming); 911.2 (Industrial Economics)
723 (Computer Software); 911 (Industrial Economics)
72 (COMPUTERS & DATA PROCESSING); 91 (ENGINEERING MANAGEMENT)

44/5/13 (Item 13 from file: 8)
DIALOG(R) File 8: Ei Compendex(R)
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03919293 E.I. No: EIP94081363551
Title: Accurate modeling of the hybrid hash join algorithm
Author: Patel, Jignesh M.; Carey, Michael J.; Vernon, Mary K.
Corporate Source: Univ of Wisconsin, Madison, WI, USA
Conference Title: Proceedings of the 1994 ACM Sigmetrics on Measurement and Modeling of Computer Systems
Conference Location: Nashville, TN, USA **Conference Date:** 19940516-19940520
E.I. Conference No.: 20690
Source: Performance Evaluation Review v 22 n 1 May 1994. p 56-66
Publication Year: 1994
CODEN: PEREDN **ISSN:** 0163-5999 **ISBN:** 0-89791-659-X
Language: English

Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)

Journal Announcement: 9409W5

Abstract: The join of two relations is an important operation in database systems. It occurs frequently in **relational queries**, and join performance is a significant factor in overall system performance. **Cost** models for join algorithms are used by query **optimizers** to choose efficient query execution strategies. This paper presents an efficient analytical model of an important join method, the hybrid hash join algorithm, that captures several key features of the algorithm's performance including its intra operator parallelism, interference between disk reads and writes, caching of disk pages, and placement of data on disk(s). **Validation** of the model against a detailed simulation of a database system shows that the response time estimates produced by the model are quite accurate. (Author abstract) Refs.

Descriptors: *Relational database systems; Algorithms; Mathematical models; Magnetic disk storage; Response time (computer systems); Synchronization; Optimization; Query languages; Parallel processing systems; Performance

Identifiers: Hybrid hash join algorithm; **Relational queries**; Join performance; **Cost** models; Query **optimizers**; Intra operator parallelism; Disk read and writes; Caching of disk pages

Classification Codes:

723.3 (Database Systems); 723.1 (Computer Programming); 921.6 (Numerical Methods); 722.1 (Data Storage, Equipment & Techniques); 722.4 (Digital Computers & Systems); 921.5 (Optimization Techniques)
723 (Computer Software); 921 (Applied Mathematics); 722 (Computer Hardware)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

44/5/14 (Item 14 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

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02717813 E.I. Monthly No: EI8903021028

Title: Optimizing join queries in distributed databases.

Author: Pramanik, Sakti; Vineyard, David

Corporate Source: Michigan State Univ, East Lansing, MI, USA

Source: IEEE Transactions on Software Engineering v 14 n 9 Sep 1988 p 1319-1326

Publication Year: 1988

CODEN: IESEDJ **ISSN:** 0098-5589

Language: English

Document Type: PA; (Conference Article) **Treatment:** T; (Theoretical)

Journal Announcement: 8903

Abstract: A reduced cover set of the set of full reducer semijoin programs for an acyclic query graph for a distributed database system is given. An algorithm based on this reduced cover set is then presented that **determines** the minimum **cost** full reducer program. It is shown that the computational complexity of finding the optimal full reducer for a single relation is of the same order as that of finding the optimal full reducer for all relations. The optimization algorithm is able to handle query graphs where more than **one** attribute is common between the relations. A method for **determining** the optimum profitable semijoin program is also presented. The computational complexities of finding the optimal **cost** semijoin program is high. A low- **cost** algorithm which **determines** a near-optimal profitable semijoin program is outlined. This is done by converting a semijoin program into a partial order graph. This graph also allows **one** to maximize the concurrent processing of the semijoins. It is

shown that the minimum response time is given by the largest **cost** path of the partial order graph. This reducibility is used as a post **optimizer** for the SSD-1 query optimization algorithm. It is also shown that the least upper bound on the length of any profitable semijoin program is $N(N-1)$ for a query graph of N nodes. 12 Refs.

Descriptors: *DATABASE SYSTEMS--*Distributed; MATHEMATICAL TECHNIQUES--Graph Theory; OPTIMIZATION

Identifiers: DISTRIBUTED RELATIONAL DATABASE SYSTEMS; SEMIJOIN PROGRAMS; QUERY GRAPHS; FULL REDUCER SEMIJOIN PROGRAM; JOIN **QUERIES** OPTIMIZATION

Classification Codes:

723 (Computer Software); 921 (Applied Mathematics)

72 (COMPUTERS & DATA PROCESSING); 92 (ENGINEERING MATHEMATICS)

44/5/19 (Item 5 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online

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01338777 ORDER NO: AAD94-07688

ADVANCED QUERY OPTIMIZATION TECHNIQUES FOR RELATIONAL DATABASE SYSTEMS

Author: SHIM, KYUSEOK

Degree: PH.D.

Year: 1993

Corporate Source/Institution: UNIVERSITY OF MARYLAND (0117)

Chairman: TIMOS K. SELLIS

Source: VOLUME 54/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 5268. 192 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

Current query **optimizers** make certain assumptions about many important run-time parameters whose values are unknown at query optimization time. Thus, when these assumptions are violated at run-time, re-optimization is needed or performance suffers. To overcome this shortcoming, we develop a new technique called parametric query optimization which attempts to identify several **execution plans**, each **one** of which is optimal for a subset of all possible values of the run-time parameters. We adopt randomized algorithms as the main approach and enhance them with a sideways information passing feature that increases their effectiveness in the new task. Experimental results show that they optimize queries for large numbers of **optimizer** parameter values in the same time needed by their conventional versions for a single parameter **value**, without much sacrifice in the output quality.

We then investigate the multiple query optimization problem. When more than **one** query is presented to a database system, current database systems optimize and process each query separately ignoring common subexpressions between the queries. To avoid this inefficiency, we develop a new heuristic search algorithm that generates a globally optimal plan, which computes the results of all queries simultaneously evaluating common subexpressions only once. Through both theoretical analysis and experimental results, we show that our algorithm is superior to the algorithms that have been proposed in the past.

Finally, we present a query optimization technique in the presence of foreign functions such as operating system libraries, mathematical functions and user defined procedures. Our key observation is that the optimization must be **cost**-based and take into account semantic information about foreign functions. Therefore, after presenting a simple declarative rule language to express such semantics, we provide an algorithm to enumerate equivalent queries applying the semantic rules and develop an optimization algorithm based on the dynamic programming

approach, which finds an optimal plan from the enriched space of the equivalent queries. We also provide query processing techniques and extensions to the **cost** model that are necessary for foreign functions.

44/5/20 (Item 6 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online
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01338717 ORDER NO: AAD94-07595

QUERY PROCESSING AND OPTIMIZATION IN SPATIAL DATABASES (DATABASE MANAGEMENT)

Author: AREF, WALID GALAL
Degree: PH.D.
Year: 1993
Corporate Source/Institution: UNIVERSITY OF MARYLAND (0117)
Chairman: HANAN SAMET
Source: VOLUME 54/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 5252. 237 PAGES
Descriptors: COMPUTER SCIENCE; INFORMATION SCIENCE
Descriptor Codes: 0984; 0723

Multimedia applications pose a challenge for database and information retrieval systems. Many of these applications involve spatial data. In order to support spatial data efficiently, a database management system needs to be extended at a number of levels. This dissertation provides appropriate extensions of a database management system at the query processing and optimization levels. At the query processing level, a collection of algorithms for efficiently processing spatial data inside a database environment are presented as well as an analysis and experimental verification of the performance of those algorithms. This includes new algorithms for performing duplicate elimination, spatial join, and window retrieval. At the query optimization level, this dissertation provides techniques that help a database query **optimizer** in selecting the cheapest plan for answering user queries that manipulate portions of the underlying database based on some spatial as well as non-spatial qualifications. This is achieved by estimating the **cost** of execution, the **cardinality**, and size of the output of commonly used spatial operations. The estimates are also verified empirically.

44/5/21 (Item 7 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online
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01324425 ORDER NO: AAD93-33671

AUTOMATING PHYSICAL DATABASE DESIGN: AN EXTENSIBLE APPROACH (INDEX SELECTION)

Author: ROZEN, STEVE
Degree: PH.D.
Year: 1993
Corporate Source/Institution: NEW YORK UNIVERSITY (0146)
Adviser: DENNIS SHASHA
Source: VOLUME 54/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 3715. 136 PAGES
Descriptors: COMPUTER SCIENCE
Descriptor Codes: 0984

In a high-level query language such as SQL, queries yield the same result no matter how the logical schema is physically implemented.

Nevertheless, a query's **cost** can vary by orders of magnitude among different physical implementations of the same logical schema, even with the most modern query **optimizers**. Therefore, designing a low- **cost** physical implementation is an important pragmatic problem-- **one** that requires a sophisticated understanding of physical design options and query strategies, and that involves estimating query **costs**, a tedious and error-prone process when done manually.

We have devised a simple framework for automating physical design in relational or post-relational DBMSs and in database programming languages. Within this framework, design options are uniformly represented as "features", and designs are represented by "conflict"-free sets of features. (Mutually exclusive features conflict. An example would be two primary indexes on the same table.) The uniform representation of design options as features accommodates a greater variety of design options than previous approaches; adding a new design option (e.g. a new index type) merely entails characterizing it as a feature with appropriate parameters.

We propose an approximation algorithm, based on this framework, that finds low- **cost** physical designs. In an initial phase, the algorithm examines the logical schema, data statistics, and queries, and generates "useful features"--features that might reduce query **costs**. In a subsequent phase, the algorithm uses the DBMS's **cost** estimates to find "best features"--features that belong to the **lowest - cost** designs for each individual query. Finally, the algorithm searches among conflict-free subsets of the best features of all the queries to find organizations with low global **cost** estimates.

We have implemented a prototype physical design assistant for the INGRES relational DBMS, and we evaluate its designs for several benchmarks, including ASSSAP. Our experiments with the prototype show that it can produce good designs, and that the critical factor limiting their quality is the accuracy of query **cost** estimates. The prototype implementation isolates dependencies on INGRES, permitting our framework to produce design assistants for a wide range of relational, nested-relational, and object-oriented DBMSs.

44/5/24 (Item 10 from file: 35)

DIALOG(R) File 35:Dissertation Abs Online

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01146557 ORDER NO: AAD91-05658

A BAYESIAN APPROACH TO SELECTED DATABASE ISSUES (QUERY OPTIMIZATION, DECISION THEORY)

Author: SEPPI, KEVIN DARRELL

Degree: PH.D.

Year: 1990

Corporate Source/Institution: THE UNIVERSITY OF TEXAS AT AUSTIN (0227)

Supervisors: J. WESLEY BARNES; CARL N. MORRIS

Source: VOLUME 51/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 5011. 155 PAGES

Descriptors: OPERATIONS RESEARCH; COMPUTER SCIENCE; STATISTICS

Descriptor Codes: 0796; 0984; 0463

Relational database system users retrieve data by specifying what they want, not how it should be found. A 'query **optimizer**' is responsible for determining how the desired data will be found. For each step in a query there may exist several candidate algorithms which could be used to perform the required operation. The execution times for these algorithms depend on the statistical properties of the user data to be processed, and may differ widely. The execution **cost** of each algorithm is estimated using statistics on the user data and **cost** models. The algorithm with **lowest**

estimated **cost** is used.

This decision process is subject to error. Bayesian decision theory is used here to quantify the expected improvement in the decision if the **choice** of algorithm were postponed until additional information is acquired. The expected **value** of additional information is compared with the information acquisition **cost** before the additional information is actually acquired. Additional information, gained from sources like sampled user data, should be obtained whenever it is expected to yield a significant net reduction in execution time.

Computational methods for determining the expected **value** of sample information (EVSI) are explored. These methods allow for the application of these concepts to a wide range of query optimization problems. Three such problems in database query optimization are presented with example computations of the expected **value** of sample information.

44/5/25 (Item 11 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online
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1081210 ORDER NO: AAD89-25961

OPTIMIZATION OF LARGE JOIN QUERIES

Author: SWAMI, ARUN NARASIMHA

Degree: PH.D.

Year: 1989

Corporate Source/Institution: STANFORD UNIVERSITY (0212)

Source: VOLUME 50/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 3022. 145 PAGES

Descriptors: COMPUTER SCIENCE

Descriptor Codes: 0984

The optimization of queries is crucial in relational database systems, since the performance of even simple queries can differ by large factors depending on the **execution plan** chosen for the component operations. The join operation plays a dominant role. In this thesis, we investigate the problem of optimizing Select-Project- **Join queries** with large numbers of joins (specifically 10 to 100 **joins**). Current **query optimizers** expect to process queries involving only a small number of joins (less than 10 joins). We expect that some future applications will require processing of queries with a much larger number of joins.

The results in this thesis are **validated** using several different synthetic benchmarks, and two different models of join processing **costs** : **one** , a conventional disk based model, and, two, a model for memory resident databases developed by us. Simulations based on the **cost** model are used to study the performance of various join methods.

To study the characteristics of the search space of query plans, we obtain the statistical distributions of query plan **costs** . We observe that, as the number of joins increase, the difficulty of the optimization problem increases dramatically in the range considered. We study the effectiveness of the heuristic of postponing joins without predicates as late as possible. We find that the number of sampled query plans of low **cost** increases significantly using the heuristic.

We next address the problem of **determining** good methods for optimization. Taking advantage of the commonly used heuristics of pushing selections down and performing projections as soon as possible, the problem of optimizing large queries is reduced to the problem of **determining** the optimal join order. The latter problem is an NP-hard combinatorial optimization problem. We apply general techniques, such as iterative improvement and simulated annealing, that have proved effective in a variety of combinatorial optimization problems. We then study the use of

heuristic techniques, such as augmentation and local improvement, in combination with the general combinatorial techniques.. We observe great differences among the different methods considered. Two combinations of the augmentation heuristic and iterative improvement technique are superior to all the other methods.

44/5/26 (Item 12 from file: 35)

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1017195 ORDER NO: AAD88-13974

EXTENDING RELATIONAL DATABASE MANAGEMENT SYSTEMS FOR INFORMATION RETRIEVAL APPLICATIONS

Author: LYNCH, CLIFFORD ALAN

Degree: PH.D

Year: 1987

Corporate Source/Institution: UNIVERSITY OF CALIFORNIA, BERKELEY (0028)

Source: VOLUME 49/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 2265. 247 PAGES

Descriptors: COMPUTER SCIENCE; INFORMATION SCIENCE; LIBRARY SCIENCE

Descriptor Codes: 0984; 0723; 0399

This thesis studies the use of relational database systems to construct large, high performance information retrieval systems such as online library catalogs or citation retrieval applications. The major problem areas in **relational** implementations are **query** execution costs, poor space utilization, and functionality deficiencies both in query processing and in query languages such as SQL. Analytic and simulation methods are applied to quantify these problems.

Proposals extending earlier work on user-defined operators for **relational query** languages and accompanying secondary index support allow both efficient query formulation and the definition of space-efficient relational bibliographic databases. When column values follow distributions typical of bibliographic databases (Zipf distributions), a key performance problem is inaccurate selectivity estimation. A framework for incorporating user-defined selectivity estimators into a **relational query optimizer** is established, and methods are given to construct highly accurate selectivity estimators for bibliographic databases. **Relational query optimizer** extensions are specified which incorporate query **execution plans** that use TID list manipulation algorithms for evaluating single- **relation queries** into the **optimizer** 's vocabulary. With these extensions a relational system can outperform an inverted file retrieval system on bibliographic databases. Also explored are query planner extensions to implement nonmaterialized relations (allowing both partially deferred evaluation of queries and inexpensive iterative query construction) and preexecution identification of queries that will be costly to evaluate or will produce very large results. Both of these features are important for public access information retrieval applications. Finally, the thesis examines difficulties that arise in using a **relational query** language to support advanced information retrieval techniques such as ranking and weighted retrieval, and develops query language extensions that would significantly improve the performance of such searching techniques in a relational setting.

44/5/28 (Item 14 from file: 35)

DIALOG(R)File 35:Dissertation Abs Online
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842910 ORDER NO: AAD84-09162

QUERY OPTIMIZATION IN FRAGMENTED DISTRIBUTED DATABASE SYSTEMS

Author: SEGEV, ARIE

Degree: PH.D.

Year: 1984

Corporate Source/Institution: THE UNIVERSITY OF ROCHESTER (0188)

Source: VOLUME 45/02-A OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 576. 188 PAGES

Descriptors: BUSINESS ADMINISTRATION, GENERAL

Descriptor Codes: 0310

This dissertation deals with the optimization of query processing in a Relational Fragmented Distributed Database System. The objective of the thesis is to develop a methodological approach to the design of query processing **optimizers** in a distributed environment with fragmented relations.

The first part of the dissertation demonstrates the importance of optimizing the processing of queries in a distributed environment, and includes a detailed literature survey. In the second part of the thesis, a special class of queries, referred to as Set Queries, is defined. A mathematical model of Set Query is developed and the problem is proven to be NP-Complete. Lower bounding and heuristic procedures are proposed, and extensive computational experiments carried out. The main result of those experiments is the insensitivity of the heuristics' performance (measured in actual **cost** of processing the query) to errors in estimating the size of intermediate results.

The next part of the dissertation concentrates on the problem of Fragmented 2-Way Joins, which is proven to be NP-Complete with respect to the number of fragments. The analysis of 2-Way Joins is done for two cases, **Local Semi-Join** operations and Remote Semi-Join operations. A mathematical model is developed, and lower bounding and heuristic procedures are proposed. Extensive computational experiments were carried out for the case of 2-Way Joins. The analysis has revealed a superior performance of algorithms which incorporate remote semi-join operations. An important part of the computational results was the significant effect of errors, in estimating the selectivity factors, on the actual **cost** of processing the query.

The problem of Fragmented N-Way Joins concludes the thesis. A mathematical model for the case of N-Way Joins is developed, and heuristic procedures are proposed.

44/5/29 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

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7289462 INSPEC Abstract Number: C2002-07-6160D-007

Title: LEO-DB2's Learning Optimizer

Author(s): Stillger, M.; Lohman, G.; Markl, V.; Kandil, M.

Author Affiliation: Siebel Syst. Inc., San Mateo, CA, USA

Conference Title: Proceedings of the 27th International Conference on Very Large Data Bases p.19-28

Editor(s): Apers, P.M.G.; Atzeni, P.; Ceri, S.; Paraboschi, S.; Ramamohanarao, K.; Snodgrass, R.T.

Publisher: Morgan Kaufmann Publishing, Orlando, FL, USA

Publication Date: 2001 Country of Publication: USA xxiv+727 pp.

ISBN: 1 55860 804 4 Material Identity Number: XX-2001-02683

Conference Title: Proceedings of Very Large Databases

Conference Sponsor: Inf. Soc. Technol.; Microsoft Res.; IBM; ETNOTEAM; CNR; ROMA TRE: et al

Conference Date: 11-14 Sept. 2001 Conference Location: Rome, Italy
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)

Abstract: Most modern DBMS **optimizers** rely upon a **cost** model to choose the best query **execution plan** (QEP) for any given query. **Cost** estimates are heavily dependent upon the **optimizer**'s estimates for the number of rows that will result at each step of the QEP for complex queries involving many predicates and/or operations. These estimates rely upon statistics on the database and modeling assumptions that may or may not be true for a given database. In this paper we introduce LEO, DB2's Learning **Optimizer**, a comprehensive way of repairing incorrect statistics and **cardinality** estimates of a query **execution plan**. By monitoring previously executed queries, LEO compares the **optimizer**'s estimates with actuals at each step in a QEP, and computes adjustments to **cost** estimates and statistics that may be used during future query optimizations. This analysis can be done either on-line or off-line on a separate system, and either incrementally or in batches. In this way, LEO introduces a feedback loop to query optimization that enhances the available information on the database where the most queries have occurred, allowing the **optimizer** to actually learn from its past mistakes. Our technique is general and can be applied to any operation in a QEP, including joins, derived results after several predicates have been applied, even to DISTINCT and GROUP-BY operators. (16 Refs)

Subfile: C

Descriptors: query processing; relational databases

Identifiers: DB2 Learning **Optimizer**; LEO; DBMS **optimizers**; best query **execution plan**; **cost** estimates; statistics; modeling; query optimizations; feedback loop; joins; DISTINCT operators; GROUP-BY operators; performance measurements

Class Codes: C6160D (Relational databases)

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44/5/30 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

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7069015 INSPEC Abstract Number: C2001-11-6160B-024

Title: Multi-weighted tree based query optimization method for parallel relational database systems

Author(s): Jianzhong Li; Zhipeng Cai; Shuoying Chen

Author Affiliation: Dept. of Comput. Sci. & Eng., Harbin Inst. of Technol., China

Conference Title: Proceedings of the Third International Symposium on Cooperative Database Systems for Advanced Applications. CODAS 2001 p. 186-93

Editor(s): Lu, H.; Spaccapietra, S.; Kambayashi, Y.; Wang, S.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 2000 Country of Publication: USA x+200 pp.

ISBN: 0 7695 1128 7 Material Identity Number: XX-2001-01750

U.S. Copyright Clearance Center Code: 0-7695-1128-7/01/\$10.00

Conference Title: Proceedings of the Third International Symposium on Cooperative Database Systems for Advanced Applications. CODAS 2001

Conference Sponsor: Nat. Natural Sci. Found. China; China Comput. World; Kyoto Univ. Japan; K.C. Wong Educ. Found., Hong Kong

Conference Date: 23-24 April 2001 Conference Location: Beijing, China

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: A multi-weighted tree based query optimization method for parallel relational databases is proposed. The method consists of a

multi-weighted tree based parallel query plan model, a **cost** model for parallel query plans and a query **optimizer**. The parallel query plan model models three types of parallelism of query execution, processor and memory allocation to operations, memory allocation to buffers in pipelines and data redistribution among processors. The **cost** model takes the waiting time of operations in pipelining execution into consideration and is computable in a bottom-up fashion. The query **optimizer** addresses the query optimization problem in the context of Select-Project- **Join queries**. Heuristics for **determining** the processor allocation to operations and the memory allocation to operations and buffers in pipelines are derived and used in the query **optimizer**. In addition, the query **optimizer** considers multiple join algorithms, and can make an optimal choice of join algorithm for each join operation in a query. (35 Refs)

Subfile: C

Descriptors: parallel databases; pipeline processing; processor scheduling; query processing; relational databases; storage allocation; tree data structures

Identifiers: multi-weighted tree based query optimization; parallel relational databases; multi-weighted tree based parallel query plan model; **cost** model; parallel query plans; query execution; memory allocation; processor allocation; data redistribution; waiting time; pipelining execution; query **optimizer**; query optimization problem; Select-Project-**Join queries**; multiple join algorithms; join operation

Class Codes: C6160B (Distributed databases); C4250 (Database theory); C5440 (Multiprocessing systems); C6120 (File organisation); C6160D (Relational databases)

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44/5/31 (Item 3 from file: 2)

DIALOG(R) File 2:INSPEC

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6983694 INSPEC Abstract Number: C2001-08-6160D-015

Title: Genetic optimization techniques for large join queries

Author(s): Lahiri, T.

Author Affiliation: Dept. of Electr. Eng., Stanford Univ., CA, USA

Conference Title: Genetic Programming 1998. Proceedings of the Third Annual Conference p.535-42

Editor(s): Koza, J.R.; Banzhaf, W.; Chellapilla, K.; Deb, K.; Dorigo, M.; Fogel, D.B.; Garzon, M.H.; Goldberg, D.E.; Iba, H.; Riolo, R.L.

Publisher: Morgan Kaufmann Publishers, San Francisco, CA, USA

Publication Date: 1998 **Country of Publication:** USA xxv+892 pp.

ISBN: 1 55860 548 7 **Material Identity Number:** XX-1998-02159

Conference Title: Proceedings of Genetic Programming Conference (GP-98)

Conference Date: 22-25 July 1998 **Conference Location:** Madison, WI, USA

Language: English **Document Type:** Conference Paper (PA)

Treatment: Practical (P); Theoretical (T)

Abstract: The problem of optimizing a **relational** database query containing a large number of joins is an NP-complete combinatorial optimization problem. Queries involving more than 15-20 joins are beyond the scope of **deterministic** query **optimizers**. This paper compares two different genetic search techniques for **determining** the optimal join-tree for **queries** containing more than a hundred joins. The first is a fixed-length genetic algorithm (GA) which searches the space of left-deep join-trees. This algorithm uses a permutation-preserving crossover operator known as the partially matched crossover (PMX) operator, and two permutation-preserving mutation operators referred to as the Swap mutation and the Flip mutation. The second technique is an application of genetic programming (GP) that searches the space of all possible join trees. In

this technique, the population consists of programs for a robot that scans the set of input relations and builds a join-tree from the relations it encounters during the scan. The best individual in the population is the program that builds the **least - cost** join-tree. The GP technique was found to perform significantly better than the GA technique on the sample queries used in this paper. (8 Refs)

Subfile: C

Descriptors: database theory; genetic algorithms; query processing; relational algebra; relational databases; tree searching

Identifiers: genetic optimization; large **join queries** ; query optimization; relational database; NP-complete combinatorial optimization; genetic search; optimal join-tree; fixed-length genetic algorithm; permutation-preserving crossover operator; partially matched crossover; permutation-preserving mutation operators; Swap mutation; Flip mutation; genetic programming; tree searching

Class Codes: C6160D (Relational databases); C4250 (Database theory); C1180 (Optimisation techniques); C1160 (Combinatorial mathematics)

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44/5/36 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

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6637069 INSPEC Abstract Number: C2000-08-6160D-015

Title: Counting, enumerating, and sampling of execution plans in a cost -based query optimizer

Author(s): Waas, F.; Galindo-Legaria, C.

Author Affiliation: CWI, Amsterdam, Netherlands

Journal: SIGMOD Record Conference Title: SIGMOD Rec. (USA) vol.29, no.2 p.499-509

Publisher: ACM,

Publication Date: June 2000 Country of Publication: USA

CODEN: SRECD8 ISSN: 0163-5808

SICI: 0163-5808(200006)29:2L:499:CESE;1-3

Material Identity Number: A660-2000-002

Conference Title: 2000 ACM SIGMOD. International Conference on Management of Data

Conference Sponsor: ACM

Conference Date: 16-18 May 2000 Conference Location: Dallas, TX, USA

Language: English Document Type: Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P); Theoretical (T)

Abstract: Testing an SQL database system by running large sets of deterministic or stochastic SQL statements is common practice in commercial database development. However, code defects often remain undetected as the query **optimizer**'s choice of an **execution plan** not only depends on the query but is strongly influenced by a large number of parameters describing the database and the hardware environment. Modifying these parameters in order to steer the **optimizer** to select other plans is difficult since this means anticipating often complex search strategies implemented in the **optimizer**. In this paper, we devise algorithms for the counting, exhaustive generation and uniform sampling of plans from the complete search space. Our techniques allow extensive validation of both the generation of alternatives and execution algorithms with plans other than the optimized **one** -if two candidate plans fail to produce the same results, then either the **optimizer** has considered an invalid plan or else the execution code is faulty. When the space of alternatives becomes too large for exhaustive testing, which can occur even with a handful of joins, uniform random sampling provides a mechanism for unbiased testing. The

technique is implemented in Microsoft's SQL Server, where it is an integral part of the validation and testing process. (11 Refs)

Subfile: C

Descriptors: database theory; planning; program testing; program verification; query formulation; query processing; relational databases; sampling methods; SQL

Identifiers: **execution plan** counting; **execution plan** enumeration; **execution plan** sampling; **cost** -based query **optimizer** ; SQL database system testing; deterministic SQL statements; stochastic SQL statements; commercial database development; code defects; parameter modification; complex search strategies; exhaustive plan generation; uniform random sampling; validation; alternatives generation; execution algorithms; exhaustive testing; joins; unbiased testing; Microsoft SQL Server

Class Codes: C6160D (Relational databases); C4250 (Database theory)

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44/5/37 (Item 9 from file: 2)

DIALOG(R) File 2:INSPEC

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6615165 INSPEC Abstract Number: C2000-07-6160J-018

Title: Query rewriting and search in CROQUE

Author(s): Kroger, J.; Illner, R.; Rost, S.; Heuer, A.

Author Affiliation: Dept. of Comput. Sci., Rostock Univ., Germany

Conference Title: Advances in Databases and Information Systems. Third East European Conference, ADBIS'99. Proceedings. (Lecture Notes in Computer Science Vol.1691) p.288-302

Editor(s): Eder, J.; Rozman, I.; Welzer, T.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1999 Country of Publication: Germany xiii+381 pp.

ISBN: 3 540 66485 8 Material Identity Number: XX-1999-02685

Conference Title: Proceedings of ADBIS'99: The Advances in Databases and Information System '99

Conference Date: 13-16 Sept. 1999 Conference Location: Maribor, Slovenia

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P); Experimental (X)

Abstract: In query optimization, a given query will be transformed by rewrite rules into an equivalent **execution plan** that is cheaper than the straightforwardly assigned plan according to some **cost** model. Finding the cheapest of all equivalent **execution plans** is a challenge since the rewriting of complex queries on the basis of a large set of rewriting rules may potentially span a very large space of equivalent plans. Consequently, **one** has to either use search strategies to explore (parts of) the search space or some heuristics to prune this space thus making it efficiently traversable. This paper presents the use of search strategies in the CROQUE project. The adaptation of some common strategies led to the development of a simple but powerful heuristics which is demonstrated by examples executed in the CROQUE prototype. The proposed heuristics can support any random-based search strategy or can be used stand-alone. It may be integrated seamlessly into most of the present query **optimizers** without almost any effort. (25 Refs)

Subfile: C

Descriptors: object-oriented databases; query formulation; query processing; rewriting systems

Identifiers: query rewriting; query optimization; equivalent **execution plan** ; **cost** model; search strategies; CROQUE project

Class Codes: C6160J (Object-oriented databases)

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44/5/38 (Item 10 from file: 2)

DIALOG(R) File 2:INSPEC

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6566206 INSPEC Abstract Number: C2000-05-6160Z-034

Title: Performance evaluation and optimization of join queries for association rule mining

Author(s): Thomas, S.; Chakravarthy, S.

Author Affiliation: Dept. of Comput. & Inf. Sci. & Eng., Florida Univ., Gainesville, FL, USA

Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings (Lecture Notes in Computer Science Vol.1676) p.241-50

Editor(s): Mohania, M.; Tjoa, A.M.

Publisher: Springer-Verlag, Berlin, Germany

Publication Date: 1999 **Country of Publication:** Germany xii+400 pp.

ISBN: 3 540 66458 0 **Material Identity Number:** XX-1999-02851

Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings

Conference Date: 30 Aug.-1 Sept. 1999 **Conference Location:** Florence, Italy

Language: English **Document Type:** Conference Paper (PA)

Treatment: Practical (P)

Abstract: The explosive growth in data collection in business organizations introduces the problem of turning these rapidly expanding data stores into nuggets of actionable knowledge. The state-of-the-art data mining tools available for this integrate loosely with data stored in DBMSs, typically through a cursor interface. We consider several formulations of association rule mining (a typical data mining problem) using SQL-92 queries and study the performance of different join orders and join methods for executing them. We analyze the **cost** of the different **execution plans** which provides a basis to incorporate the semantics of association rule mining into future query **optimizers**. Based on them we identify certain optimizations and develop the set-oriented a priori approach. This work is an initial step towards developing "SQL-aware" mining algorithms and exploring the enhancements to current relational DBMSs to make them "mining-aware" thereby bridging the gap between the two.
(10 Refs)

Subfile: C

Descriptors: business data processing; data mining; data warehouses; optimisation; query processing; relational databases; software performance evaluation; SQL

Identifiers: performance evaluation; join query optimization; association rule mining; data collection; business; data mining; cursor interface; SQL-92 queries; join orders; join methods; semantics; query **optimizers**; set-oriented a priori approach; relational database

Class Codes: C6160Z (Other DBMS); C6170K (Knowledge engineering techniques); C7100 (Business and administration); C6160D (Relational databases)

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44/5/39 (Item 11 from file: 2)

DIALOG(R) File 2:INSPEC

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6538641 INSPEC Abstract Number: C2000-05-6160-001

Title: Lore: a database management system for XML

Author(s): Goldman, R.; McHugh, J.; Widom, J.
Author Affiliation: Dept. of Comput. Sci., Stanford Univ., CA, USA
Journal: Dr. Dobb's Journal vol.25, no.4 p.76, 78-80
Publisher: Miller Freeman,
Publication Date: April 2000 Country of Publication: USA
CODEN: DDJSDM ISSN: 1044-789X
SICI: 1044-789X(200004)25:4L:76:LDMS;1-B
Material Identity Number: B719-2000-003
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)

Abstract: HTML revolutionized the way we specify the appearance of data on the Internet. Today, XML (the eXtensible Markup Language) is changing the way we specify the meaning of data. As XML continues to proliferate, new technologies are needed for managing, searching, and querying XML data. At Stanford University, we have developed Lore, a database management system (DBMS) designed specifically for XML. In the same way that SQL enables powerful **queries** in a **relational** DBMS, Lore provides the query language Lorel for issuing expressive queries over XML data. The Lore query engine uses specialized indexes and a **cost**-based query **optimizer** to process each query as efficiently as possible. Lore also includes a new keyword-based search technique that takes full advantage of XML's structured data format. Lore is a multiuser DBMS, supporting crash recovery, materialized views, bulk loading of sets of related XML documents, and a declarative update language. Lore also has an external data manager that enables XML data from external sources to be fetched dynamically and **combined** with **local** data during query processing. All in all, the Lore system is composed of over 150,000 lines of C++ code. (2 Refs)

Subfile: C

Descriptors: hypermedia markup languages; Internet; query languages; query processing

Identifiers: Lore DBMS; XML; Lorel query language; expressive queries; Lore query engine; specialized indexes; **cost**-based query **optimizer**; keyword-based search technique; multiuser DBMS; crash recovery; materialized views; bulk loading; related XML documents; declarative update language; external data manager; external sources; local data; C++ code

Class Codes: C6160 (Database management systems (DBMS)); C6140D (High level languages); C6150N (Distributed systems software)

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44/5/40 (Item 12 from file: 2)

DIALOG(R) File 2:INSPEC

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6522127 INSPEC Abstract Number: B2000-04-6135C-229, C2000-04-5260B-455

Title: A study on a method to transmit compressed image files using paging network

Author(s): Yeyun Go; Byungdoo Lee; Kyuseob Cho

Author Affiliation: Dept. of Electr. & Comput. Eng., Sung Kyun Kwan Univ., Suwon, South Korea

Conference Title: Proceedings of IEEE. IEEE Region 10 Conference. TENCON 99. 'Multimedia Technology for Asia-Pacific Information Infrastructure' (Cat. No.99CH37030) Part vol.1 p.250-3 vol.1

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 1999 Country of Publication: USA 2 vol.xxxvii+1583 pp.

ISBN: 0 7803 5739 6 Material Identity Number: XX-2000-00012

U.S. Copyright Clearance Center Code: 0 7803 5739 6/99/\$10.00

Conference Title: Proceedings of IEEE. IEEE Region 10 Conference. TENCON 99. 'Multimedia Technology for Asia-Pacific Information Infrastructure'

Conference Sponsor: Inst. Electron Eng. Korea; Korea Inf. Sci. Soc.;
Korean Inst. Electr. Eng.; Korean Inst. Commun. Sci.; IEEE Region 10;
Minist. Sci. & Technol.; Minist. Educ.; Cheju Province
Conference Date: 15-17 Sept. 1999 Conference Location: Cheju Island,
South Korea

Language: English Document Type: Conference Paper (PA)

Treatment: Applications (A); Practical (P); Experimental (X)

Abstract: We propose a method to transmit compresses image files for
wireless **multimedia** services based on FLEX. In a conventional paging
system, traffic congestion and delay are serious problems in transmitting
large binary files. To overcome these problems, we propose to use a JPEG
optimizer to reduce the file size within 4 kbytes and divide a file into
a number of small size files. In addition, we assign 4 reserved bits in the
header of the message codeword as the divided file number which are used
for reassembling divided files into the original binary file. We verify the
quality of the transmitted image files by simulation. The results tell us
that the proposed method can be operated well under the required BER=10/sup
-3/ which is the typical **value** for wireless communication services. (6
Refs)

Subfile: B C

Descriptors: data compression; delays; digital simulation; image coding;
multimedia communication; paging communication; protocols; radio networks;
telecommunication traffic; visual communication

Identifiers: compressed image files transmission; paging network;
wireless **multimedia** services; FLEX protocol; paging system; traffic
congestion; traffic delay; binary files; JPEG **optimizer** ; file size
reduction; header; message codeword header; simulation; image file quality;
BER; wireless communication services

Class Codes: B6135C (Image and video coding); B6210R (Multimedia
communications); B6250F (Mobile radio systems); B6150M (Protocols); C5260B
(Computer vision and image processing techniques); C5640 (Protocols)

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44/5/41 (Item 13 from file: 2)

DIALOG(R)File 2:INSPEC

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6482421 INSPEC Abstract Number: B2000-03-6135-127, C2000-03-5260D-015

Title: **Two computer vision-based tracking applications solved using a
robust parallel optimizer**

Author(s): Bazin, P.-L.; Gerard, P.; Gagalowicz, A.

Author Affiliation: Mirages Project, Inst. National de Recherche d'Inf.
et d'Autom. I, Le Chesnay, France

Conference Title: Proceedings 10th International Conference on Image
Analysis and Processing p.526-31

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1999 Country of Publication: USA xxii+1232 pp.

ISBN: 0 7695 0040 4 Material Identity Number: XX-1999-01023

U.S. Copyright Clearance Center Code: 0 7695 0040 4/99/\$10.00

Conference Title: Proceedings of ICIAP '99 - 10th International
Conference on Image Analysis and Processing

Conference Sponsor: Int. Assoc. Pattern Recognition; Univ. Udine

Conference Date: 27-29 Sept. 1999 Conference Location: Venice, Italy

Language: English Document Type: Conference Paper (PA)

Treatment: Theoretical (T); Experimental (X)

Abstract: A method was developed as a response to the need for a robust
optimizer for two different image vision algorithms. Our new approach is
a synthesis of two modalities, a simulated annealing technique paired with
a parallel search. Using an initial **value** and the maximum parametric

variations, our method searches for a **cost** function minimum by using parameter subspaces **combined** with a **local** simulated annealing algorithm step. The description of our two computer vision applications which relate object tracking to **video** sequences make it clear why this kind of **optimizer** was needed. In the cases described, our method provides encouraging results. (9 Refs)

Subfile: B C

Descriptors: computer vision; image sequences; parameter estimation; search problems; simulated annealing; tracking; **video** signal processing

Identifiers: computer vision; robust parallel **optimizer**; simulated annealing; parallel search; initial **value**; maximum parametric variations; **cost** function minimum; parameter subspaces; object tracking; **video** sequences

Class Codes: B6135 (Optical, image and video signal processing); B0260 (Optimisation techniques); C5260D (Video signal processing); C1180 (Optimisation techniques)

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44/5/42 (Item 14 from file: 2)

DIALOG(R) File 2:INSPEC

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6346555 INSPEC Abstract Number: C1999-10-6160J-011

Title: How to avoid building DataBlades(R) that know the value of everything and the cost of nothing

Author(s): Aoki, P.M.

Author Affiliation: Div. of Comput. Sci., California Univ., Berkeley, CA, USA

Conference Title: Proceedings. Eleventh International Conference on Scientific and Statistical Database Management, p.122-33

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA

Publication Date: 1999 Country of Publication: USA xiii+287 pp.

ISBN: 0 7695 0046 3 Material Identity Number: XX-1999-02058

U.S. Copyright Clearance Center Code: 0 7695 0046 3/99/\$10.00

Conference Title: Proceedings of Eleventh International Conference on Scientific and Statistical Database Management'99

Conference Sponsor: Case Western Univ.; ACM SIGMOD; VLDB Endowment

Conference Date: 28-30 July 1999 Conference Location: Cleveland, OH, USA

Language: English Document Type: Conference Paper (PA)

Treatment: Practical (P)

Abstract: The **object - relational database management system (ORDEMS)** offers many potential benefits for scientific, **multimedia** and financial applications. However work remains in the integration of domain-specific class libraries into **ORDEMS** query processing. A major problem is that the standard mechanisms for query selectivity estimation, taken from relational database systems, rely on properties specific to the standard data types; creation of new mechanisms remains extremely difficult because the software interfaces provided by vendors are relatively low-level. We discuss extensions of the generalized search tree, or GiST, to support a higher level but less type-specific approach. Specifically, we discuss the computation of selectivity estimates with confidence intervals using a variety of index based approaches and present results from an experimental comparison of these methods with several estimators from the literature. (44 Refs)

Subfile: C

Descriptors: data structures; object-oriented databases; query processing; relational databases; tree searching

Identifiers: DataBlades; **object - relational database management**

44/5/63 (Item 35 from file: 2)

DIALOG(R) File 2:INSPEC

(c) 2004 Institution of Electrical Engineers. All rts. reserv.

02791807 INSPEC Abstract Number: C87007316

Title: R* optimizer validation and performance evaluation for local queries

Author(s): Mackert, L.F.; Lohman, G.M.

Author Affiliation: IBM Almaden Res. Center, San Jose, CA, USA

Journal: SIGMOD Record vol.15, no.2 p.84-95

Publication Date: June 1986 **Country of Publication:** USA

CODEN: SRECD8 **ISSN:** 0163-5808

U.S. Copyright Clearance Center Code: 0163-5808/86/0500/0084\$00.75

Conference Title: Proceedings of ACM SIGMOD '86. International Conference on Management of Data

Conference Sponsor: ACM

Conference Date: 28-30 May 1986 **Conference Location:** Washington, DC, USA

Language: English **Document Type:** Conference Paper (PA); Journal Paper (JP)

Treatment: Practical (P)

Abstract: Few database query optimizer models have been validated against actual performance. The authors present the methodology and results of a thorough validation of the optimizer and evaluation of the performance of the experimental distributed relational database management system R*, which inherited and extended to a distributed environment the optimization algorithms of System R. Optimizer estimated costs and actual R* resources consumed were written to database tables using new SQL commands, permitting automated control from SQL application programs of test data collection and reduction. A number of tests were run over a wide variety of dynamically-created test databases, SQL queries, and system parameters. The results for single-table access, sorting, and local 2-table joins are reported. (39 Refs)

Subfile: C

Descriptors: database theory; distributed databases; performance evaluation; relational databases

Identifiers: buffer management; indexing; cardinality ; R* optimizer validation; performance evaluation; local queries; database query optimizer models; distributed relational database management system; optimization algorithms; System R; database tables; SQL commands

Class Codes: C4250 (Database theory); C6160B (Distributed DBMS); C6160D (Relational DBMS)

44/5/64 (Item 36 from file: 2)

DIALOG(R) File 2:INSPEC

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02447948 INSPEC Abstract Number: D85001355

Title: Universal data bases close 'information gap' (health care)

Author(s): Ehrlich, J.

Journal: Computers in Healthcare vol.6, no.3 p.60-1

Publication Date: March 1985 **Country of Publication:** USA

CODEN: COHED2 **ISSN:** 0274-631X

Language: English **Document Type:** Journal Paper (JP)

Treatment: General, Review (G)

Abstract: The purchasing process is one of many areas that has been closely scrutinized by hospital administrators seeking additional ways to save money. While the majority of hospitals use computers in their

purchasing process to **one** degree or another, there remains a wide gap between the enormous capacity of today's sophisticated computer hardware and the availability of 'universal' product data bases, a key management tool for purchasing materials for supply areas such as pharmacy, medical/surgical, dietary and laboratory. Though these **universal data bases** are by no means mandatory to successfully perform the purchasing function with a computerized hospital information system they are an important management tool that can make those systems far more effective. By providing instant access to complete information on thousands upon thousands of products from hundreds of vendors, hospital buyers can help their institutions save money, run more efficiently and smoothly and perhaps most importantly, institute additional **cost** savings. (0 Refs)

Subfile: D

Descriptors: database management systems; health care; management information systems

Identifiers: databases; purchasing process; hospital administrators; management tool; computerized hospital information system; hospital buyers

Class Codes: D2060 (Health care); D2080 (Information services and database systems)

44/5/66 (Item 38 from file: 2)

DIALOG(R)File 2:INSPEC

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01489777 INSPEC Abstract Number: C80013089

Title: Access path selection in a relational database management system

Author(s): Astrahan, M.M.; Chamberlin, D.D.; Lorie, R.A.; Price, T.G.; Selinger, P.G.

Author Affiliation: IBM Corp., Armonk, NY, USA

Journal: IBM Technical Disclosure Bulletin vol.22, no.4 p.1657-60

Publication Date: Sept. 1979 Country of Publication: USA

CODEN: IBMTAA ISSN: 0018-8689

Language: English Document Type: Journal Paper (JP)

Treatment: Applications (A); Economic aspects (E); Theoretical (T)

Abstract: The System R **optimizer** chooses both join order and an access path for each table in a SQL (sequential query language)-type statement given to System R. Of the many possible choices, the **optimizer** chooses the **one** which minimizes 'total access **cost**' for performing the entire statement. For each **relation**, the **path** selector chooses between a segment scan and clustered and non-clustered index scans. (0 Refs)

Subfile: C

Descriptors: database management systems; economics; optimisation

Identifiers: sequential query language; segment scan; index scans; access path selection; **cost** minimisation; relational database management system

Class Codes: C6160D (Relational DBMS)

44/5/70 (Item 4 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

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00560503 00IK02-012

A universal database for Java and the Internet -- IBM's DB2 Universal Database 6.1 embraces Java, XML and improves cross-platform code portability

Zeichick, Alan

InternetWeek, February 7, 2000, n799 p31-33, 2 Page(s)

ISSN: 0746-8121

Company Name: IBM Corp.

URL: www4.ibm.com

Product Name: IBM DB2 **Universal Database** 6.1

Languages: English

Document Type: Software Review

Grade (of Product Reviewed): A

Geographic Location: United States

Presents a very favorable review of DB2 **Universal Database** 6.1 Enterprise Edition (\$12,500), a database from IBM Corp. Says that it is an all-purpose database engine applicable across many applications. Cites features such as cross-platform compatibility, ease of administration, support for Java queries with Structured Query Language (SQL) and Java Database Connectivity (JDBC), and Extensible Markup Language (XML) extenders. Reports, however, that it has a confusing array of licensing and bundle options. Concludes that it provides **value** to enterprises adopting the Internet, Linux, Java, and XML technologies. Received the "InternetWeek Approved" designation. Includes **one** sidebar, two tables, and a product summary. (MEM)

Descriptors: Database; Enterprise Computing; Cross-Platform Computing; Java; XML

Identifiers: IBM DB2 **Universal Database** 6.1; IBM Corp.

44/5/77 (Item 4 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03215431 JICST ACCESSION NUMBER: 97A0671543 FILE SEGMENT: JICST-E

An ORDBMS and Intranet Based Information Sharing System.

IMAFUKU YUKIHARU (1)

(1) NTT Data Tsushin

Joho Shori Gakkai Kenkyu Hokoku, 1997, VOL.97,NO.59(IS-64), PAGE.33-40,
FIG.3

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072

UNIVERSAL DECIMAL CLASSIFICATION: 681.3.02:651.2 681.3:061.68

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: Recently more and more companies use intranet systems in order to share their information in their organization. Generally these systems deal with multimedia, but these have problems; (i) How do they maintain **multimedia** information? (ii) How do they search the information which really need, in huge **amount** of information? (iii) How do they keep the security? I report an enterprise information sharing system which is applied Object Oriented Relational Data Management System(**ORDEMS**) for **multimedia** data management, Free Word Search Engine for selecting information quickly, and personal or group level access control system for limiting the rights to read or write these information. (author abst.)

DESCRIPTORS: management information system; object-oriented database; multi- **media** ; information retrieval; computer network; reading(library); access control; computer security; computer system(hardware); client server system

BROADER DESCRIPTORS: information system; computer application system; system; database; information **media** ; retrieval; communication network ; information network; network; action and behavior; control; security; guarantee

CLASSIFICATION CODE(S): JE15020F; JD03030U

44/5/80 (Item 2 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs
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1177669 H.W. WILSON RECORD NUMBER: BAST94046284

DSP toolset provides path for wireless and multimedia applications

AUGMENTED TITLE: Alta Group's Signal Processing WorkSystem

Donlin, Mike;

Computer Design v. 33 (July '94) p. 110

DOCUMENT TYPE: Product Evaluation ISSN: 0010-4566 LANGUAGE: English

RECORD STATUS: New record

ABSTRACT: The Alta Group, a business unit of Cadence Design Systems, has made several improvements to its digital signal processing software. Revision 3.1 of the Signal Processing WorkSystem (SPW) has a multi-rate capability that encompasses a library of blocks that work with the SPW signal flow simulator. Other improvements to SPW are the introduction of both a collection of blocks for modeling the radio-frequency (RF) portion of a signal-processing system and a Fixed Point **Optimizer** that automatically determines the best fixed-point attributes of a behavioral algorithm or an architectural design. **Prices** for SPW 3.1 begin at \$25,000. The RF Library is **priced** at \$5,000; the Fixed Point **Optimizer** at \$20,000.

DESCRIPTORS: Electric engineering software; Microprocessors--Design;
Product evaluation;

44/5/81 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01048405 E96126226062

Database architectures and location strategies for mobility management in mobile radio systems

(Datenbankarchitekturen und Ortungsstrategien fuer das

Mobilitaetsmanagement in mobilen Funksystemen)

Tabbane, N; Tabbane, S

ISG Tunis, Tunisia; ESPTT Cite El Ghazala, Tunisia

Multiaccess, Mobility and Teletraffic for Personal Communications, 2nd Workshop, Paris, F, May, 1996/1996

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 0-7923-9742-8

ABSTRACT:

With the increasing number of mobile service users, cellular systems must offer higher traffic capacities. Therefore, cells sizes are reduced which increases the mobility signalling load. Part of this signalling is due to handovers ('radio mobility') and the other part to mobility management ('network mobility'). In this paper the authors **combine location** strategies and database architectures to evaluate their impact on user mobility management **cost**. Two location management strategies are studied: the classical strategy used in GSM (Global System for Mobile communications), and the alternative strategy based on users' mobility patterns. The centralized, distributed and hybrid types of databases architectures are considered here and combined with the two location strategies. Evaluation of different scenarios is done analytically. The authors show that, for the values used here, the **hybrid database** architecture combined with the alternative strategy allows to save more

than 50 % of the **costs** involved by the classical strategy combined with the centralized database architecture (which last combination is used in most of current cellular systems).

DESCRIPTORS: DATA NETWORK ADMINISTRATION; COMMUNICATION SYSTEMS; RADIO TRANSMISSION; WIRELESS TRANSMISSION; RADIO DETERMINATION; DATA BANK; SYSTEM ARCHITECTURE; COMMUNICATION TRAFFIC; **COST** REDUCTION; RADIO NETWORKS; RADIO STATIONS; LARGE SCALE MODEL; COMPUTER INTERFACES; SIGNALLING--TELECOMMUNICATION NETWORKS; EXPERIMENTAL RESULTS; MOBILE RADIO SERVICE IDENTIFIERS: MOBILKOMMUNIKATION; Mobilitaetsmanagement; Mobilkommunikation; Funksystem

44/5/82 (Item 2 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management
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00795656 E94065290020

Optimizing Multi-Join Queries in parallel relational databases
(Zur Optimierung von Multi-Join-Anfragen in parallelen relationalen Datenbanken)

Srivastava, J; Elsesser, G

Univ. of Minnesota, Minneapolis, USA

PDIS, Proc. of the 2nd Int. Conf. on Parallel and Distributed Information Syst., San Diego, USA, Jan 20-22, 1993/1993

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 0-8186-3330-1

ABSTRACT:

Query optimization for parallel machines needs to consider machine architecture, processor and memory resources available, and different types of parallelism, making the search space much larger than the sequential case. In this paper the aim is to **determine** a plan that makes the execution of an individual query very fast, making minimizing parallel execution time the right objective. This creates the following circular dependence: a plan tree is needed for effective resource assignment, which is needed to estimate the parallel execution time, and this is needed for the **cost** -based search for a good plan tree. In this paper the authors propose a new search heuristic that breaks the cycle by constructing the plan tree layer by layer in a bottom-up manner. To select nodes at the next level, the lower and upper bounds on the execution time for plans consistent with the decisions made so far are estimated and are used to guide the search. A query plan representation for intra- and inter-operator parallelism, pipelining, and processor and memory assignment is proposed. Also proposed is a new approach to estimating the parallel execution time of a plan that considers sum and max of operators working sequentially and in parallel, respectively. The results obtained from a prototype **optimizer** are presented.

DESCRIPTORS: QUERY LANGUAGES; DATABASE MANAGEMENT SYSTEM; MEMORY MANAGEMENT ; IMPLEMENTATION; DATA MODELS; COMPUTER ARCHITECTURE; MASSIVELY PARALLEL MACHINES; PARALLEL PROCESSING; ACCESS TIME; SEARCH ALGORITHM; INFORMATION RETRIEVAL SYSTEMS; PARALLEL ALGORITHMS; RELATIONAL DATABASES; TREE STRUCTURE; DATA FORMAT; DATA THROUGHPUT; IMPROVEMENT; PERFORMANCE ANALYSIS; PERFORMANCE EVALUATION; MODEL STUDY
IDENTIFIERS: Multi-Join Anfrage; parallele relationale Datenbank

44/5/83 (Item 3 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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00535469 E92014613089

The synchronous dataflow machine: A heterogeneous multiprocessor system for image processing

(Ein heterogenes Mehrprozessorsystem mit synchronen Datenflussplan fuer die Bildverarbeitung)

Gunzinger, A; Guggenbuehl, W; Hildebrand, E; Mathis, S; Schaeren, P; ua
Swiss Federal Inst. of Technology, Zuerich, CH

From Pixels to Features 2, Parallelism in Image Processing, Proceedings of
a Workshop, Bonas, F, August 27 - September 1, 1990/1991

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 0-444-89003-3

ABSTRACT:

General purpose multiprocessor systems are often too slow for real time image processing. In such cases the algorithms are replaced by specialized hardware. However, such a method is very expensive, because it results in a lot of hardware and software work. In this paper a computer system architecture is presented, that supports the combination of specialized hardware with general purpose multiprocessor systems. The system concept is based on the synchronous dataflow paradigm. In a synchronous dataflow system an algorithm is divided into functions. The execution time and communication rate of each function for different implementations (specialized hardware, specialized digital signal processor, general purpose processor) can be predicted during program compilation. A system **cost optimizer** optimizes the hardware **costs** for given time constraints. If the needed hardware is available, an automatic task allocation is done by the software. The constraints here reduce the communication **costs**. For low level image processing the SYDAMA-1 (SYnchronous DATAflow MACHINE) has been built. This prototype includes the automatic task allocation as well as a very fast communication network. Examples of applications of the SYDAMA-1 are real time image enhancement, robotics, and autonomous systems. A color classification algorithm for an autonomous vehicle guidance runs at **video** rate (50 frames per second). For this application more than 200 million instructions per second (VAX equivalent) are executed. A more advanced real time image processing system, SYDAMA-2, is under construction. In this version, a general purpose multiprocessor system (Transputer) is added. This heterogeneous system can be adapted more easily to a wide range of real time image processing with given time constraints. The hardware **cost** of such a system are almost proportional to the processing power.

DESCRIPTORS: MULTIPROCESSING SYSTEMS; IMAGE PROCESSING; REAL TIME METHOD;
COMPILERS; DATA FLOW CHARTS; PARALLEL PROCESSING; TRANSPUTERS

IDENTIFIERS: Mehrprozessorbetrieb; Bildverarbeitung

Set	Items	Description
S1	5074	ORDBMS OR OBJECT()RELATIONAL()DBMS OR OBJECT()RELATIONAL()-(DATABASE OR DATE()BASE)()MANAGEMENT()SYSTEM OR (UNIVERSAL OR HYBRID)() (DATABASE? OR DATA()BASE?)
S2	10468	OPTIMIZER? OR DEFRAGGER? OR DEFRAGMENTER?
S3	4202233	DETERMIN? OR DECID? OR ASCERTAIN? OR RESOLV? OR DETECT? OR RECOGNI? OR VERIFY? OR AUTHENTICAT? OR VALIDAT?
S4	10010515	COST? ? OR COSTING OR PRICE? ? OR PRICING OR VALUE OR CHARGE? OR AMOUNT
S5	11411466	JOIN? OR LINK? OR CONNECT? OR COMBINE? OR ASSOCIAT? OR RELAT?
S6	30736	S5 (2N) (QUERY OR QUERIES OR INQUIR? OR REQUISITION? OR REQUEST? OR PETITION?)
S7	8220858	SELECT? OR CHOOSE OR CULL OR ELECT OR CHOICE OR INCLUDE? OR PICK???
S8	146032	(LOWEST OR LEAST OR SMALLEST OR LOWERMOST OR NETHERMOST OR BOTTOM) (2N) S4
S9	256114	S5 (2N) (PATH? OR LOCAT? OR ADDRESS? OR PLACE? OR POSITION? OR LOCAL? OR VECTOR? OR COORDINATES)
S10	82085	S5 (2N) (TUPLE OR TABLE? OR ARRAY? OR (MATHEMATICAL OR DATA)-()ELEMENT? OR MATRIX? OR MATRICES OR COLUMN? OR ROW? OR GRAPH? OR FAT OR MFAT)
S11	7498524	CARDINALITY OR CARDINALITIES OR ONE(1N) (ONE OR MANY) OR CARDINAL()NUMBER? OR KNAPSACK()VECTOR? OR DISTINCT()ELEMENT?
S12	5111	(COMPLEX OR INTERCONNECT? OR INTERWOVEN) (2N) (ATTRIBUTE? OR DATA() (TYPE? OR VALUE?) OR PARAMETER? OR SCHEMA OR LIMIT? OR -BOUND? OR DESCRIPT? OR TYPE()INFORMATION)
S13	3845102	(TV OR TELEVISION OR RADIO) () (SHOW? OR PROGRAM? OR BROADCAST?) OR MEDIA()ASSET? OR VIDEO? OR AUDIO? OR MULTIMEDIA OR MEDIA
S14	825	EXECUTION()PLAN?
S15	6	S1 (15N) S2
S16	5	S2 (15N) S3 (15N) S4 (15N) S6
S17	761	S2 (15N) S3
S18	113	S17 (15N) S4
S19	3	S17 (15N) S6
S20	1	S18 (15N) S6
S21	8	S2 (15N) S7 (15N) S8
S22	28	S2 (15N) S9
S23	67	S2 (15N) S10
S24	3	S6 (15N) S12
S25	3541	S10 (10N) S11
S26	5	S2 (15N) S25
S27	385	S2 (15N) S13
S28	265	S1 (10N) S4
S29	7	S27 (S) S8
S30	2	S28 (S) S8
S31	42	S2 (10N) S14
S32	2	S31 (S) S8
S33	4	S22 (S) S23
S34	42	S15 OR S16 OR S19 OR S20 OR S21 OR S24 OR S26 OR S29 OR S30 OR S32 OR S33
S35	41	S34 NOT PY>2001
S36	41	S35 NOT PD>20011026
S37	38	RD (unique items)

File 15:ABI/Inform(R) 1971-2004/Mar 11

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File 647:CMP Computer Fulltext 1988-2004/Feb W5

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File 275:Gale Group Computer DB(TM) 1983-2004/Mar 11

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 (c) 2004 The Dialog Corp.
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 (c) 2004 The Gale Group
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 (c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2004/Mar 11
 (c) 2004 PR Newswire Association Inc
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 (c) 1999 The Gale Group
File 553:Wilson Bus. Abs. FullText 1982-2004/Feb
 (c) 2004 The HW Wilson Co

36/3,K/1 (Item 1 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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02375384 126532221

An adaptive probe-based technique to optimize join queries in distributed Internet databases

Khan, Latifur; McLeod, Dennis; Shahabi, Cyrus

Journal of Database Management v12n4 PP: 3-14 Oct-Dec 2001

ISSN: 1063-8016 JRNL CODE: DAN

WORD COUNT: 7669

...TEXT: the size and cardinality of relations R

sub1 and R

sub1. Therefore, the problem is how to **decide** which plan to choose in order to minimize the response time of a certain **join query**. It is the responsibility of a query **optimizer** to assign a **cost** to each plan and then choose the cheaper plan. Intuitively, if /R

sub1/ and /R

sub1/ are...spawned on a server.

Table 1:

Each site runs an Informix Universal Server (IUS) which is an **object - relational DBMS**. The run-time **optimizer** and its different plans are implemented in Java. The run-time **optimizer** communicates with the database servers through Java API which is a library of Java classes provided by...

36/3,K/2 (Item 2 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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01770082 04-21073

What's a media buyer to do?

Mandese, Joe.

American Demographics v21n2 PP: 32-34 Feb 1999

ISSN: 0163-4089 JRNL CODE: ADE

WORD COUNT: 873

...TEXT: media buyers would have to select from more than 1.125 quadrillion scheduling combinations to construct a **media** plan.

Faced with such a Herculean task, since 1997 advertising agencies have been using **optimizers** to sort through the myriad choices available and deliver the largest number of targeted viewers at the **lowest cost**. For the most part, audience-reach **optimizers** are employed by only the largest ad agencies, such as Leo Burnett, Grey Advertising, TN **Media**, and TeleVest, because of their high cost. (While the software program itself is relatively cheap to license...

36/3,K/3 (Item 3 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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01243462 98-92857

Query optimization

Ioannidis, Yannis E

ACM Computing Surveys v28n1 PP: 121-123 Mar 1996

ISSN: 0360-0300 JRNL CODE: ACI

...ABSTRACT: Thus, all DBMSs have a module that examines all alternatives and chooses the plan that needs the **least amount** of time. This module is called the query **optimizer**. An examination is made of the optimization of a single **select** -project-joint query in a centralized relational DBMS.

...

36/3,K/4 (Item 4 from file: 15)

DIALOG(R)File 15:ABI/Inform(R)

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00767479 94-16871

The evolution of the meta-data concept: Dictionaries, catalogs, and repositories

Gillenson, Mark L; Frost, Raymond D

Journal of Database Management v4n3 PP: 17-26 Summer 1993

ISSN: 1063-8016 JRNL CODE: DAN

WORD COUNT: 6215

...TEXT: network, and flat-file integrated databases then in use, relational databases lacked physical linkages (i.e. direct **address pointers**) between **related** pieces of data. Query **optimizers**, which analyze a query to determine the most efficient strategy for responding to it, were developed to achieve reasonable execution-time performance, particularly when related data from different **relational tables** had to be integrated.

In order for relational query **optimizers** to work, they require information about the **relational tables** involved in the query, such as which fields are in which tables, which fields have indexes built...

36/3,K/5 (Item 1 from file: 647)

DIALOG(R)File 647:CMP Computer Fulltext

(c) 2004 CMP Media, LLC. All rts. reserv.

01084955 CMP ACCESSION NUMBER: IWK19960318S0031

Technology Tutorial, Part 1 - Maxamizing Your Warehouse

Neil Raden

INFORMATIONWEEK, 1996, n 571, PG42

PUBLICATION DATE: 960318

JOURNAL CODE: IWK LANGUAGE: English

RECORD TYPE: Fulltext

SECTION HEADING: OpenLabs

WORD COUNT: 3422

... when an analytical query is made against this normalized design, the number of tables and alternatives in **join** paths can quickly overwhelm the query **optimizer**, which may **join tables** mechanically or force full-table scans, or both. The result is skyrocketing response time and query cost...

36/3,K/6 (Item 1 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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02330503 SUPPLIER NUMBER: 55734289 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Be Aggregate Aware. (database optimizers) (Technology Information)
WINTER, RICHARD
Intelligent Enterprise, 2, 13, 56
Sept 14, 1999
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2443 LINE COUNT: 00192

...ABSTRACT: computed aggregates stored in the database and exploit them to reduce query time and cost. In DB2 **Universal Database** for Unix and NT 5.2 and 6.1, the **optimizers** are named automated summary tables while in Informix's Red Brick Data Warehouse 5.1, the optimizer...
... capabilities to suit your particular situation -- lest you increase your troubles rather than relieve them.
In DB2 **Universal Database** for Unix and NT, Versions 5.2 and 6.1, these **optimizers** are called automated summary tables (ASTs). In Informix's Red Brick Data Warehouse 5.1, a facility...

36/3,K/7 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02248637 SUPPLIER NUMBER: 53336534 (USE FORMAT 7 OR 9 FOR FULL TEXT)
INTRODUCING THE JOIN INDEX. (Teradata's new join index feature) (Product Information)
Ballinger, Carrie
Intelligent Enterprise, 19(1)
Nov, 1998
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2809 LINE COUNT: 00219

... foreign key or the primary key in the join index, but you don't need both. The **optimizer** will derive **one** value from the other.
Join constraint **columns** that support **joining** to **tables** not incorporated in the join index must be included in either the fixed or the repeating portion...

36/3,K/8 (Item 3 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02136155 SUPPLIER NUMBER: 20180267
DB2 UDB: starburst grows bright. (IBM's DB2 Universal Database database software optimized with Starburst framework) (Product Information)
Brobst, Stephen; Vecchione, Bob
Database Programming & Design, v11, n2, p44(6)
Feb, 1998
ISSN: 0895-4518 LANGUAGE: English RECORD TYPE: Abstract

ABSTRACT: IBM's DB2 **Universal Database** (UDB) is the first DB2 offering that combines the parallel aware **optimizer** technology and advanced optimization techniques of IBM's Starburst project. The Starburst project sought to create a...

36/3,K/9 (Item 4 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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02086980 SUPPLIER NUMBER: 19576787 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Fast tracking data warehouse applications. (Oracle's Developer/2000 and Oracle7 DBMSs) (includes related articles on designing decision support systems and Oracle's database performance) (Drilling for Data) (Technology Information) (Cover Story)
Sullivan, Daniel
Databased Web Advisor, v15, n7, p38(3)
July, 1997
DOCUMENT TYPE: Cover Story ISSN: 1090-6436 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1554 LINE COUNT: 00129

... provides two optimization methods: rule-based and cost-based. A set of heuristics control the rule-based **optimizer** ; but, to some degree, **one** can influence the execution plan by ordering the **tables** and **join** clauses in a query. Cost-based optimization depends primarily upon system maintained statistics, but hints can be...

36/3,K/10 (Item 5 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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02008485 SUPPLIER NUMBER: 18884737 (USE FORMAT 7 OR 9 FOR FULL TEXT)
IBM Plans DB2 Universal Database.
Newsbytes, pNEW11250067
Nov 25, 1996
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 714 LINE COUNT: 00062

... in the MDDS cube; and new indexing enhancements, such as bitmapped indexers and a "star schema join **optimizer** ," for indexing large amounts of data.

DB2 **Universal Database** will also support X/Open; XA transaction management; Structure Query Language (SQL) 92; Open Database Connectivity (ODBC...

36/3,K/11 (Item 6 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01998663 SUPPLIER NUMBER: 18733376 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Performance tuning. (Seven DBMS utilities) (Product Information)
Rennhackkamp, Martin
DBMS, v9, n11, p85(5)
Oct, 1996
ISSN: 1041-5173 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 5474 LINE COUNT: 00429

... plans with all possible join combinations using a bottom-up, breadth-first search strategy, after which it **selects** the query plan with the **lowest** estimated **cost0** . You can influence the Informix query **optimizer** to an extent: Apart from specifying the statistics to be collected for each table, you can specify...

36/3,K/12 (Item 7 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01933770 SUPPLIER NUMBER: 18236449 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Objects of their affection. (includes related article on how relational database vendors approach the market) (Industry Trend or Event)

Francett, Barbara

Software Magazine, v16, n5, p96(5)

May, 1996

ISSN: 0897-8085

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 2739

LINE COUNT: 00225

... to object extensions is an incremental strategy that includes waiting for the arrival of SQL3 with object **query** capability, establishing **relationships** with third-party vendors for support for some **complex data types**, improving its internal support for large objects and extending SQL Server with support for abstract data types...

36/3,K/13 (Item 8 from file: 275)

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01933736 SUPPLIER NUMBER: 18220947 (USE FORMAT 7 OR 9 FOR FULL TEXT)

How middleware can help your enterprise.

Goodard, Doug

Data Based Advisor, v14, n5, p100(7)

May, 1996

ISSN: 0740-5200

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 4343

LINE COUNT: 00375

... is that it's a database gateway with an onboard optimizer, from a company recognized for its **optimizer** technology.

Some database gateways have an optimization strategy that consists of copying each of the **tables** in a **join** to the same platform containing the middleware code. However, if **one** of the tables contains 5,000,000 rows and the other only a few thousand then it...

36/3,K/14 (Item 9 from file: 275)

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01908962 SUPPLIER NUMBER: 18046547 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Parallel processing with DB2 PE. (IBM's DBMS) (Server Side) (Product Information) (Column)

Miller, Stewart

DBMS, v9, n3, p75(4)

March, 1996

DOCUMENT TYPE: Column

ISSN: 1041-5173

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3985

LINE COUNT: 00326

... component and are implemented on the following principles:

1. Cost-based optimization: The compiler generates different parallel **execution plans** while choosing the **least - cost** optimization plan. This **optimizer** is responsible for the parallelism of different operations.

2. Data distribution: This optimizer comprehensively distributes data and...

36/3,K/15 (Item 10 from file: 275)

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01902062 SUPPLIER NUMBER: 17945913 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Smart RDBMS tuning. (design principles that lead to enhanced relational database performance) (Technology Tutorial)(Tutorial)
Zeigler, Heather
Data Based Advisor, v14, n3, p94(2)
March, 1996
DOCUMENT TYPE: Tutorial ISSN: 0740-5200 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1012 LINE COUNT: 00088

... query's dependence on column order, a real problem when someone reorders them.

* Be bold--give your **optimizer** freedom of choice. Define all possibilities in the WHERE clause when **joining tables**. Even if some of the clauses are not necessary, they let the **optimizer** choose the fastest **path** for **joining the tables**.

* Always be positive. When possible, use where coll = :var, rather than where oll<> :var.

* Put criteria in...

36/3,K/16 (Item 11 from file: 275)

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01872798 SUPPLIER NUMBER: 17816888 (USE FORMAT 7 OR 9 FOR FULL TEXT)
IBM's DB2 for Windows NT looks powerful, not pretty: first release taps NT's strength. (DB2 2.0 for Windows NT) (Software Review)(Evaluation)
Taschek, John
PC Week, v12, n48, p1(2)
Dec 4, 1995
DOCUMENT TYPE: Evaluation ISSN: 0740-1604 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 535 LINE COUNT: 00046

... Beneath its ugly interface, there's major horsepower in DB2. The IBM database has an advanced SQL **optimizer** that **includes** a cost-based algorithm, which assigns a cost to each possible query path and chooses the one with the **lowest cost**.

DB2 for NT's **optimizer**, which can work on joins of more than 15 tables, also features a query rewrite capability that...

36/3,K/17 (Item 12 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01837679 SUPPLIER NUMBER: 17443083 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Oracle focuses on 'universal' DB server; 7.3 boosts Warehouse, OLTP initiatives. (online transaction-processing applications, Oracle7 7.3 database software)
Petersen, Scot

PC Week, v12, n37, p6(1)

Sep 18, 1995

ISSN: 0740-1604

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 415

LINE COUNT: 00038

... of database features, from the application perspective."

New features in 7.3 designed to speed Warehouse performance **include** a new parallel-aware **optimizer** that's designed to calculate the **lowest cost** of system resources, said Tsukahara. In addition to speeding table comparison through new parallel hash joins, new...

36/3,K/18 (Item 13 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01802439 SUPPLIER NUMBER: 17112070 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Inspecting Watcom SQL 4.0. (Watcom Corp's DBMS) (Software Review) (Evaluation)

Price, Josh; Vijay, Bharat

DBMS, v8, n5, p100(3)

May, 1995

DOCUMENT TYPE: Evaluation

ISSN: 1041-5173

LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 3295

LINE COUNT: 00261

... that purpose. Watcom even supports online backups, which allow other applications to use the engine during backup.

Optimizer

Watcom has a simple cost-based **optimizer** that generates an **execution plan** based on the **lowest cost**. The **optimizer** uses a combination of hard-coded rules, quick and accurate estimates of rows to be retrieved

36/3,K/19 (Item 14 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)

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01624870 SUPPLIER NUMBER: 14475064 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Optimizer options. (optimization features in Gupta Corp.'s SQLBase 5.1, Informix Software Inc.'s Informix-Online 5.01, The ASK Group Inc.'s Ingres 6.4, Oracle Corp.'s Oracle7 and Sybase Inc.'s SQL Server 4.9 database management systems) (Cover Story) (Software Review) (Evaluation)

Bobrowski, Steve

DBMS, v6, n12, p42(6)

Nov, 1993

DOCUMENT TYPE: Evaluation

ISSN: 1041-5173

LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 3980

LINE COUNT: 00315

... for a statement. Plans with lower costs are faster to execute than those with higher costs. The **optimizer picks** the lowest, or one of the **lowest, cost** plans, and then the server executes the statement using the plan.

Statistics about Data

Because a cost-based **optimizer** uses statistics to determine query execution plans, the types, quality, and gathering options for data statistics are...

36/3,K/20 (Item 15 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01593080 SUPPLIER NUMBER: 13745101 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The power edge. (includes related articles on maximizing PC LAN databases,
test results and how testing was done, plus a directory of companies)
(Software Review) (overview of five evaluations of relational database
management systems for microcomputers) (Evaluation)
Sheppard, Gene; Weston, Rusty
Corporate Computing, v2, n5, p88(16)
May, 1993
DOCUMENT TYPE: Evaluation ISSN: 1065-8610 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 5939 LINE COUNT: 00460

... simple, complex, and advanced) and added a special query group that
was designed to stress the DSS **optimizers**. We ended up with 27 queries,
covering the range from pulling a row from a **table** to **joining** thousands
of **rows** across several tables. We assumed that more than **one** person
would need access to the information in a decision support environment, so
we ran queries from...

36/3,K/21 (Item 16 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01533100 SUPPLIER NUMBER: 12564271 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Micro, mini, mainframe. (Software Review) (overview of four evaluations of
decision-support systems) (includes related articles on how to manage
decision support, how to choose system size, how testing was done,
maximizing query speed, products for off-loading, alternative systems ,
shopping for systems) (Evaluation)
Weston, Rusty; Cornwell, Dwight
Corporate Computing, v1, n3, p62(18)
Sept, 1992
DOCUMENT TYPE: Evaluation ISSN: 1065-8610 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 11146 LINE COUNT: 00866

... Is Best?

The query quagmire is far more complicated than it appears at first
glance. A query **optimizer** 's job is to sort through your questions and
decide which of these three basic approaches, or what mix, will work best.
Relational database **query optimizers** usually use one of a trio of
techniques to find the best way to optimize.
Assumption-based...

36/3,K/22 (Item 17 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01466769 SUPPLIER NUMBER: 11665754 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Server: SQLBase 5.0 fastest server on the desktop. (Gupta Technologies
Inc.) (Product Announcement)
EDGE: Work-Group Computing Report, v2, n83, p31(1)
Dec 23, 1991

DOCUMENT TYPE: Product Announcement LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 1402 LINE COUNT: 00117

... customer accounts.

Other new features of SQLBase 5.0 that impact performance include enhancements to the Query **Optimizer**. Improved query optimization drastically reduces the time required to compile and execute complex **queries**, including multilevel **joins** and nested **queries**.

Query optimization is the process by which the server performs a series of complex algorithms in order to **determine** the fastest and most **cost**-effective method for returning the answer in response to a query.

SQLBase 5.0 now has greatly...

36/3,K/23 (Item 18 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01431076 SUPPLIER NUMBER: 10581358 (USE FORMAT 7 OR 9 FOR FULL TEXT)
You take the high road and I'll.... (adding query optimization to a data base management system) (Database Developer) (technical column) (tutorial)

Buzzard, James

Data Based Advisor, v9, n4, p83(5)

April, 1991

DOCUMENT TYPE: tutorial ISSN: 0740-5200 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2803 LINE COUNT: 00219

... sophisticated their query optimizers are.

How query optimization works

In order to do its work, the query **optimizer** must follow an ordered set of steps:

1. Reduce the query provided by the user or application program (with procedural commands or SQL) to an internal representation that's more easily manipulated by the **optimizer**.

2. Generate a set of alternate access plans that satisfy the **query**.

3. **Determine relative costs** for each access plan based on estimated data set sizes, distribution of records within the database, and disk access overhead.

4. Select and perform the access plan with the lowest **cost**.

Here are some techniques used in optimizing queries:

Reduce the number of records being searched within a...

36/3,K/24 (Item 19 from file: 275)

DIALOG(R)File 275:Gale Group Computer DB(TM)
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01430270 SUPPLIER NUMBER: 10690923 (USE FORMAT 7 OR 9 FOR FULL TEXT)
1 on 1 = 3 Integrated. (1 on 1 Computer Solutions Inc.'s 1 on 1 = 3

Integrated 2.0) (Software Review) (one of 15 evaluations of relational data base management systems in '15 relational databases: easy access, programming power') (evaluation)

Brown, Bruce

PC Magazine, v10, n10, p167(4)

May 28, 1991

DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH

RECORD TYPE: FULLTEXT; ABSTRACT

WORD COUNT: 2937 LINE COUNT: 00219

... 10 seconds for the three-table join on KEY. Since DBASE IV does not have a query **optimizer**, the person programming the query must decide how to **join** each **table**.

The **one-to-many** **join** between two **tables**, which we show here, had significantly different results. The query we used for this test was a ...

36/3,K/25 (Item 1 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

03378834 Supplier Number: 46950744 (USE FORMAT 7 FOR FULLTEXT)

IBM: IBM's new DB2 universal database offers users easy access to dynamic info

M2 Presswire, pN/A

Dec 6, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1290

... IBM and non-IBM platforms, including OS/2*, AIX*, Windows NT**, HP, Sun, SINIX** and SCO.

* Low **Cost** of Ownership: Like other IBM DB2 products, the DB2 **Universal Database** will be competitively **priced** compared to other Intel-based offerings -- across both Intel and UNIX platforms. Pricing, numerous built-in functions, quality, reliability and service contribute to the **lowest cost** of ownership in the industry.

* Windows NT Support: DB2 for NT has earned Microsoft's "Designed for ...

36/3,K/26 (Item 2 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

03363659 Supplier Number: 46919424 (USE FORMAT 7 FOR FULLTEXT)

IBM Plans DB2 Universal Database 11/25/95

Newsbytes, pN/A

Nov 25, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; General Trade

Word Count: 680

... in the MDDS cube; and new indexing enhancements, such as bitmapped indexers and a "star schema join **optimizer**," for indexing large amounts of data.

DB2 **Universal Database** will also support X/Open; XA transaction management; Structure Query Language (SQL) 92; Open Database Connectivity (ODBC....

36/3,K/27 (Item 3 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

02934796 Supplier Number: 45973233 (USE FORMAT 7 FOR FULLTEXT)

SPECIAL REPORT: SuiteSoftware

PCNetter, v10, n12, pN/A

Dec 1, 1995

Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 3934

... federated control over the enterprise
- Pass-Thru Mechanism for Performance and Legacy Support--The DDM's query **optimizer determines** if a **query** (e.g., **joins**) can be satisfied directly by a specific underlying DBMS, thereby capitalizing on the vendor's internal engine for increased performance
- Mapping of Legacy Schema Definitions--This is a key feature to reduce the **amount** of work needed to bring current datastores into the distributed environment; through configuration statements, an already existing...

36/3,K/28 (Item 4 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2004 The Gale Group. All rts. reserv.

01660512 Supplier Number: 42612701 (USE FORMAT 7 FOR FULLTEXT)

SERVER: SQLBASE 5.0 FASTEST SERVER ON THE DESKTOP

EDGE: Work-Group Computing Report, v2, n83, pN/A

Dec 23, 1991

Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1332

... customer accounts.
Other new features of SQLBase 5.0 that impact performance include enhancements to the Query **Optimizer**. Improved query optimization drastically reduces the time required to compile and execute complex **queries**, including multilevel **joins** and nested **queries**.
Query optimization is the process by which the server performs a series of complex algorithms in order to **determine** the fastest and most **cost**-effective method for returning the answer in response to a query.
SQLBase 5.0 now has greatly...

36/3,K/29 (Item 1 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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06281472 Supplier Number: 54420735 (USE FORMAT 7 FOR FULLTEXT)

Business Objects Announces BusinessObjects SET ANALYZER; First Decision Support Vendor to Provide High-Performance, Set-Based Analysis Tool for Very Large Data Sets.

Business Wire, p0193

April 20, 1999

Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1697

... index tables that can hold pre-processed query results and point to values in the database, reducing **joins** in the **query** and thus speeding the time it takes to run **complex** queries.
-- Any **schema**, any size. SET ANALYZER works with any database schema, including star, snowflake, or normalized schemas. In addition...

36/3,K/30 (Item 2 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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06244504 Supplier Number: 54624803 (USE FORMAT 7 FOR FULLTEXT)

What's a Media Buyer to Do? >BY Joe Mandese.

American Demographics, nISSN 0163-4089, pNA
Feb, 1999

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 868

... media buyers would have to select from more than 1.125 quadrillion scheduling combinations to construct a **media** plan.

Faced with such a Herculean task, since 1997 advertising agencies have been using **optimizers** to sort through the myriad choices available and deliver the largest number of targeted viewers at the **lowest cost** . For the most part, audience-reach **optimizers** are employed by only the largest ad agencies, such as Leo Burnett, Grey Advertising, TN **Media** , and TeleVest, because of their high cost. (While the software program itself is relatively cheap to license...

36/3,K/31 (Item 3 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

06143487 Supplier Number: 53914746 (USE FORMAT 7 FOR FULLTEXT)

What's a Media Buyer to Do?

MANDESE, JOE

American Demographics, v21, n2, p32(1)

Feb, 1999

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 909

... media buyers would have to select from more than 1.125 quadrillion scheduling combinations to construct a **media** plan.

Faced with such a Herculean task, since 1997 advertising agencies have been using **optimizers** to sort through the myriad choices available and deliver the largest number of targeted viewers at the **lowest cost** . For the most part, audience-reach **optimizers** are employed by only the largest ad agencies, such as Leo Burnett, Grey Advertising, TN **Media** , and TeleVest, because of their high cost. (While the software program itself is relatively cheap to license...

36/3,K/32 (Item 4 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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05759521 Supplier Number: 50244869 (USE FORMAT 7 FOR FULLTEXT)

PURELY OBJECTIVE

Stamper, Jay

Unix & NT News, p33

August, 1998

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 2164

... information and managing static relationships. For transactional systems this works fine but when it comes to more **complex data types**, or more **complex** ad hoc **queries**, the **relational** architecture may have limitations. OODBMSs do not have this limitation, as US analyst Volpe Brown Whelan & Co...

36/3,K/33 (Item 5 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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05577554 Supplier Number: 48445497 (USE FORMAT 7 FOR FULLTEXT)

OPTIMIZERS AND SYNDICATION

Advertising Age, v69, n17, ps12

April 27, 1998

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Tabloid; Trade

Word Count: 703

What is an **optimizer** ?

An **optimizer** is a computer-based approach to evaluating **media** options and identifying the set of **TV programs** (or radio spots, or ad pages) that best achieves the advertiser's objective. Because most marketers try to maximize reach in a crowded media environment, the usual objective is to find the **media** schedule that maximizes efficient reach - i.e., achieves the reach target at the **lowest cost**.

Optimizers have been in use in Europe for a number of years. Although the television market there is...

36/3,K/34 (Item 6 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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04712073 Supplier Number: 46937735 (USE FORMAT 7 FOR FULLTEXT)

IBM's new DB2 Universal Database offers users easy access to dynamic business information.

Business Wire, pl2021260

Dec 2, 1996

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1264

... including OS/2(a), AIX(a), Windows NT(b), HP, Sun, SINIX(b) and SCO.

- o Low **Cost** of Ownership: Like other IBM DB2 products, the DB2 **Universal Database** will be competitively **priced** compared to other Intel-based offerings -- across both Intel and UNIX platforms. Pricing, numerous built-in functions, quality, reliability and service contribute to the **lowest cost** of ownership in the industry.

- o Windows NT Support: DB2 for NT has earned Microsoft's "Designed..."

36/3,K/35 (Item 7 from file: 16)

DIALOG(R)File 16:Gale Group PROMT(R)
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04700797 Supplier Number: 46919424 (USE FORMAT 7 FOR FULLTEXT)

IBM Plans DB2 Universal Database 11/25/95

Newsbytes, pN/A
Nov 25, 1996
Language: English Record Type: Fulltext
Document Type: Newswire; General Trade
Word Count: 680

... in the MDDS cube; and new indexing enhancements, such as bitmapped indexers and a "star schema join **optimizer** ," for indexing large amounts of data.

DB2 **Universal Database** will also support X/Open; XA transaction management; Structure Query Language (SQL) 92; Open Database Connectivity (ODBC...

36/3,K/36 (Item 8 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

04254909 Supplier Number: 46231161 (USE FORMAT 7 FOR FULLTEXT)

Maximizing Your Warehouse

InformationWeek, p42
March 18, 1996
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; General Trade
Word Count: 3510

... when an analytical query is made against this normalized design, the number of tables and alternatives in **join** paths can quickly overwhelm the query **optimizer** , which may **join tables** mechanically or force full-table scans, or both. The result is skyrocketing response time and query cost...

36/3,K/37 (Item 9 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

04104618 Supplier Number: 45985261 (USE FORMAT 7 FOR FULLTEXT)

IBM's DB2 for Windows NT looks powerful, not pretty; First release taps NT's strengths

PC Week, p1
Dec 4, 1995
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; General Trade
Word Count: 514

... Beneath its ugly interface, there's major horsepower in DB2. The IBM database has an advanced SQL **optimizer** that **includes** a cost-based algorithm, which assigns a cost to each possible query path and chooses the one with the **lowest cost** .

DB2 for NT's **optimizer** , which can work on joins of more than 15 tables, also features a query rewrite capability that...

36/3,K/38 (Item 10 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2004 The Gale Group. All rts. reserv.

03991759 Supplier Number: 45795977 (USE FORMAT 7 FOR FULLTEXT)
Oracle focuses on 'universal' DB server

PC Week, p6
Sept 18, 1995
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; General Trade
Word Count: 390

... of database features, from the application perspective."
New features in 7.3 designed to speed Warehouse performance **include** a new parallel-aware **optimizer** that's designed to calculate the **lowest cost** of system resources, said Tsukahara. In addition to speeding table comparison through new parallel hash joins, new...

36/3,K/39 (Item 1 from file: 553)
DIALOG(R)File 553:Wilson Bus. Abs. FullText
(c) 2004 The HW Wilson Co. All rts. reserv.

04260981 H.W. WILSON RECORD NUMBER: BWBA00010981 (USE FORMAT 7 FOR FULLTEXT)

TV buys made easy easier: a new generation of software is transforming the art of media planning.

Careless, James
Marketing Magazine v. 105 no4 (Jan. 31 2000) p. 22
LANGUAGE: English
WORD COUNT: 1125

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... produce the kind of desired reach and frequency you're looking for."

These are just the major **media** planning products. Beyond these, there are a whole variety of proprietary **optimizer** programs on the market, says Classen, so planners can "maximize reach at the **least amount of cost** ." In a sense, these products make decisions for you, while the other products let you make the...

36/3,K/40 (Item 2 from file: 553)
DIALOG(R)File 553:Wilson Bus. Abs. FullText
(c) 2004 The HW Wilson Co. All rts. reserv.

04015379 H.W. WILSON RECORD NUMBER: BWBA99015379 (USE FORMAT 7 FOR FULLTEXT)

Ad world was ripe for its conversion to optimizers.

AUGMENTED TITLE: Media Agency of the Year
Ephron, Erwin
Advertising Age (Advert Age) v. 70 no8 (Feb. 22 '99) p. S16
LANGUAGE: English
WORD COUNT: 1421

ABSTRACT: Part of a special section on Advertising Age's **Media** Agency of the Year awards. Advertising agencies are making increasing use of **optimizers** in their efforts to secure TV advertising reach at the **lowest possible cost** . Optimizers, which are computer programs that function as special-purpose tools for buying reach, work particularly well with fragmented TV. Every major media group has now rushed to install the programs and the Nielsen **Media** Research data needed to feed them. Details are provided of the way in which **optimizers** work and of their strengths and limitations.

36/3,K/41 (Item 3 from file: 553)

DIALOG(R)File 553:Wilson Bus. Abs. FullText
(c) 2004 The HW Wilson Co. All rts. reserv.

03811027 H.W. WILSON RECORD NUMBER: BWBA98061027 (USE FORMAT 7 FOR
FULLTEXT)

Top-buying shops weigh in with the heavy machinery.

AUGMENTED TITLE: use of optimizers; TV's upfront

Mandese, Joe

Advertising Age (Advert Age) v. 69 no19 (May 11 '98) p. S22+

LANGUAGE: English

WORD COUNT: 2007

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

... to aggregate significant reach.

SETTING THE CURVE

According to Mr. Ephron, excluding any qualitative factors, such reach
optimizers would allocate **media** budgets first to the **lowest - priced**
option and last to the most expensive one.

"The curve would look like this: First cable, then...